LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES

BOARD MEETING

JUNE 6, 1996

GLYNN CARVER
CHAIRMAN

BATON ROUGE, LOUISIANA

The following constitute minutes of the Commission Meeting
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Tapes of the meetings are kept at the
Louisiana Department of Wildlife and Fisheries
2000 Quail Drive
Baton Rouge, Louisiana 70808
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AGENDA
LOUISIANA WILDLIFE AND FISHERIES COMMISSION
BATON ROUGE, LOUISIANA
JUNE 6, 1996

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MINUTES OF THE MEETING

OF

LOUISIANA WILDLIFE AND FISHERIES COMMISSION

Thursday, June 6, 1996

Chairman Glynn Carver presiding.

Jerald Hanchey
Edmund McIlhenny
Jeff Schneider

Secretary James H. Jenkins, Jr. was also present.

Commissioners Perry Gisclair, Joseph Cormier and Daniel Babin were absent from the meeting.

Chairman Carver called for a motion for approval of the **May 2, 1996 Commission Minutes.** A motion for approval was made by Commissioner Schneider and seconded by Commissioner McIlhenny. The motion passed with no opposition.

The **Aquatic Education Presentation** was handled by Mr. Paul Jackson. A packet of informational material was provided to each Commissioner to acquaint them with the aquatic education program. The program began in 1989 made possible through an amendment to the Dingell-Johnson Act. Louisiana as well as all of the other states developed their programs from infancy and had to build from there. To begin, the Department developed two methods of instructions - fishing clinics and school programs. Fishing clinics included instruction on casting, fish identification, knot tying, lure selection, ethics and boating safety. Between 85 to 100 public clinics with 15 to sometimes 300 children attending is the average per year. The educational programs needed to be tied in with the Department of Education's curriculum in order for it to be available in public schools. The first program discussed was Wild Louisiana which is taught in environmental science classes in the secondary schools. Other programs Mr. Jackson explained included a Resource Management Video; a Wetland Activity Guide which is directed toward Middle Schools; Let's Go Fishing, geared for the 5th grade level; and Ready, Set, Go Fishing for the Kindergarten through 3rd grades. Two pages have been set aside in the Conservationist magazine for the Education Corner which is used by everyone. One of the biggest programs is the fishing program tied in with the Let's Go Fishing book. Educators in Caddo, Webster, Bossier and Terrebonne Parishes teach a unit to their 5th grade classes on fishing. After the unit is completed, the Department sponsors a fishing clinic. This program has proven to be very successful and it is hoped it will expand. Mr. Jackson then explained Marsh Maneuvers, which is a senior 4-H wetland camp conducted at the Marine Lab at Grand Terre during July. Teacher

workshops are conducted to show them how to use the material and what the materials are used for. He noted the workshops have proven to be very successful. A new program, the Fishing Tackle Loaner Program, was to begin the same weekend as the Free Fishing Weekend. The goal of this program was to increase awareness and participation in sport fishing. The fishing gear is loaned to individuals that can not afford the equipment as well as those that would like to try the sport for the first time. The first loaner program for the State was to begin on June 8 at the Leesville Library. Also included in the packet was a lure packet donated by Sabine Manufacturing. These packets were given to participants of fishing clinics and other aquatic education programs. Through these programs, Mr. Jackson hoped to see an increase in license sales when the youths get of age. In the future, the new fish hatchery, Booker T. Fowler Fish Hatchery, may be a gold mine for the education section where a number of possible activities could occur. Chairman Carver asked Mr. Jackson if he knew the number of students being impacted. In the school systems of Bossier, Webster, Caddo they handled 10,000 students and in Terrebonne Parishes, they handled 1500 students, and in the public clinics there are 11,000 to 12,000 participants. Chairman Carver stated the future of the nation and the Department are in the hands of the youth and these type programs are vitally needed.

The **Announcement for the 1997 Duck Stamp Competition** was made by Mr. Dave Morrison. He began stating a permanent display case was in the Louisiana Room with the first four years original paintings from the duck stamp competition. The selection for the ninth year's competition will be the ring-necked duck. The basic information remained the same which included a $50 application fee. Entries needed to be in the Baton Rouge office between October 26, 1996 and November 1, 1996. The competition would be held on November 6, 1996 with the winning design available for viewing at the November Commission Meeting. Mr. Morrison noted there has been an increase in license sales over the last few years.

Chairman Carver then called for **Public Comment on the 1996-97 Hunting Regulations.** Mr. Carl Gremillion asked the Commission to simplify and clear up the laws on dove baiting the hunters can better understand the law. Then he asked that the Commission look hard at setting the duck season with 60 days and a 6 bird bag limit. He felt this would bring a lot of money into the State and would restore the sportsman's faith in Louisiana. Secretary Jenkins stated Mr. Gremillion's concern with baiting was a serious matter. He then stated it was a common problem in the southeast and was very confusing. Secretary Jenkins stated there was a need for proper leadership from the federal government.

Mr. Vince Fontenot stated one of his family members that raises cattle was cited for shooting over a baited field that he did not consider to be baited because it was used for cattle. He also felt the baiting issue needed to be written clearly.

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An unidentified speaker asked Mr. Morrison how much would the trip cost once a hunter was selected from the lottery? Mr. Morrison stated it would cost $75.

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Mr. Ralph Goss, a crossbow hunter for the past several seasons, stated he has expressed in a letter reasons why the proposed rule was in violation of federal law. He then went through the reasons at the meeting. R.S. 56:116.3(B) would allow crossbow permits to still be issued under the law even after Act 1226. Mr. Goss stated there were many other physical disabilities that should be considered, not just limiting the use of crossbows to those that are an amputee of the upper extremity or someone that has lost all five fingers on one hand. He urged the Commission to defer action until the legal issues were addressed. Mr. Prickett stated the Legal Section has looked at R.S. 56:116.3(B) and then he asked Mrs. Laura Tubridy to present a legal opinion. Mrs. Tubridy stated most of the provisions of R.S. 56:116.3(B) still existed only during the regular gun season and hunters cannot hunt during the special disabled deer hunts. Commissioner McIlhenny asked who could hunt during the special seasons? Chairman Carver asked if some of the hunters could qualify under both circumstances?

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Commissioner McIlhenny asked if this was mandated by the legislature? Mrs. Tubridy stated R.S. 56:116.3 was still

applicable except for when it conflicts with Act 1226. Commissioner Schneider asked if the history could be traced and find out why it was introduced, who asked for it to be introduced, and what problems it was to solve. Mr. Prickett stated currently permitted crossbow hunters can continue to hunt during the regular gun deer season, but could not use it during the archery season and the muzzleloader season. The history of the use of crossbows began with amputees of the upper extremity being the only ones allowed to use them. Then the law was changed to issue permits to any individual whose doctor specified that person could not use a conventional bow. Commissioner Schneider asked if an individual's doctor's statement would allow a hunter to get a crossbow permit and was this system badly abused?

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Mr. Fleming Trosclair, Louisiana Outdoorsmen with Disabilities, Inc., stated he was the one that wrote Act 1226. He then went on the record saying he had no objection to legalizing crossbows across the board. Mr. Trosclair stated when the bill was originally written, it was intended to stop the abuse of issuing permits to those that do not need it. Chairman Carver stated the Commission has considered legalizing crossbows.

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Mr. Russell Lantier, Bayou State Bowhunters Association, stated the Association felt the present permitting system was being abused. Then he stated the Association would definitely be opposed to legalizing crossbows across the board.

Mr. Greg Arneault, cerebral palsy victim, stated Act 1226 would exempt him and many others from hunting privileges. He then explained how the use of conventional bows would be a safety hazard to himself and other hunters in his area because of his handicap.

He asked that permits which have already been issued not be revoked and to begin the eligibility of crossbows to those that may need it in the future. He concluded asking the Commission not to go from one extreme to the other extreme.

Mr. Mike Fagan, a master bowhunter instructor, reminded the Commission that the regulations already allow hunters 60 years of age and older the right to use crossbows without special permit. He felt the opening of Louisiana to the use of crossbows across the board would be tragic and should not happen. Mr. Fagan suggested the language from the American Medical Association guidelines for Percent of Partial Disability and the American Orthopedic Surgeons Guidelines for Permanent/Partial Disabilities should be assessed when permitting someone to use a crossbow during the archery season.

Mr. Ralph Goss stated those individuals that have used compound bows and crossbows would prefer to use the compound bows because it made for a much better sport. Then he asked the Commission to look at the interpretation of R.S. 56:116 and how the Commission can establish a special deer hunting season. He then requested the Commission to obtain an Attorney General opinion on whether the law abides by the federal laws under the American Disabilities Act.

Dr. Robert Johnson explained how surgery for cancer has left him able to hunt with a crossbow only and now he would not be able to hunt during the archery season. The new regulation is in defiance of the Americans with Disabilities Act, stated Dr. Johnson.

Mr. Jeff Farrer asked if the Department did not recognize an increase in license sales with the change in crossbow regulations and how can it be abused when a person has obtained a doctor's statement explaining a person's disability. The way the new law is written and how it defines a handicapped person now would exclude 50 percent of the hunters. Mr. Farrer also asked that the meeting dates be changed or announced earlier so more of the public could be aware of it.

The next item, **Marsh Island Experimental Alligator Harvest** was presented by Mr. Johnnie Tarver and was for information only. The Russell Sage Foundation requested that notification be given on a Marsh Island alligator harvest which would begin in July 1996. In 1981, alligator research began on Marsh Island because of a unique situation; and in 1986, research projects were initiated which included annual harvest. From 1986 through 1995, 8,500 alligators have been harvested, 56 percent male and 44 percent females. The 1996 harvest would focus on growth rates, movement, dispersal, survival rates, contribution of farm raised alligators to the harvest and alternate time of harvest. A system has already been established with the harvest set at taking 750 alligators.

Approximately $75,000 should be generated for the Department from this project. Commissioner McIlhenny asked if the Department sells any alligator eggs from Marsh Island? Mr. Tarver answered no.

The **Monthly Law Enforcement Report for May** was given by Col. Winton Vidrine. The following numbers of citations were issued during the month of May.

Region I - Minden - 125 citations.

Region II - Monroe - 126 citations.

Region III - Alexandria - 223 citations.

Region IV - Ferriday - 112 citations.

Region V - Lake Charles - 107 citations.

Region VI - Opelousas - 145 citations.

Region VII - Baton Rouge - 284 citations.

Region VIII - New Orleans - 320 citations.

Region IX - Thibodaux - 212 citations.

Special Investigation Section - 79 citations.

Statewide Strike Force - 41 citations.

Offshore Boats (SWEP) - 6 citations.

Oyster Strike Force - 38 citations.

The grand total of citations issued statewide for the month of May was 1,914.

An Enforcement Aviation Report was also given by Col. Winton Vidrine. He stated for May 1996, enforcement pilots flew three airplanes for a total of 163 hours and a total of 36 citations were issued.

For the next item, **Division Reports**, Mr. John Roussel asked Mr. Jim Hanifen to give an update on the gasoline spill that occurred in Blind River. Mr. Hanifen stated the spill occurred on May 24, 1996 along the side of Airline Highway and consisted of 8,700 barrels of regular unleaded gasoline without additives. A fish and wildlife kill occurred because of the spill. Department staff from most divisions have been on the area almost from day one assessing the impact to that area. Also, the department has been working with Marathon Oil Company and other organizations to obtain information on the pre-assessment phase. Commissioner McIlhenny

asked if it had been determined what caused the spill? Mr. Hanifen stated it was a break in the pipeline and there may possibly have been a third party involved.

Secretary Jenkins stated he was informed that an attempt was being made to take away one of Louisiana's at-large seats on the Gulf of Mexico Fishery Management Council and give it to Mississippi. He did not agree that Mississippi should have this seat since Louisiana's coastline is three times larger than Alabama and Mississippi combined. Secretary Jenkins stated he has drafted and signed a letter to Mickey Kantor and forwarded it to Governor Foster for his signature asking that this action not be taken. He felt similar letters from anyone in Louisiana who felt the same way he did should be sent to Mr. Kantor or to the Congressional delegates. Commissioner McIlhenny asked how are the 10 at-large seats split on the Council? Commissioner Schneider suggested the Chairman should write a similar letter. Commissioner McIlhenny made a motion for the Chairman to write a letter and it was seconded by Commissioner Schneider. The motion passed with no opposition.

Mr. Hugh Bateman reminded everyone that the July Commission Meeting would be held on Tuesday, July 9 due to the first Thursday, July 4th being a holiday.

After several minutes of discussion, Commissioner Schneider made a motion to hold the **October 1996 Meeting** on Thursday, October 3, 1996 in the Baton Rouge office, beginning at 10:00 a.m. This motion passed with no opposition.

Chairman Carver then asked if there were any **Public Comments.** An unidentified speaker asked about a proposed change in the muzzleloader season for private lands and would it be considered at the next Commission Meeting. Chairman Carver stated it would be discussed at the July Meeting.

There being no further business, Commissioner Schneider made a motion to **Adjourn** the meeting and was seconded by Commissioner Hanchey.

James H. Jenkins, Jr.
Secretary

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Draft
Corrections made 6/18/96

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Mr. Ralph Goss stated those individuals that have used compound bows and crossbows would prefer to use the compound bows because it made for a much better sport. Then he asked the Commission to look at the interpretation of R.S. 56:116 and how the Commission can establish a special deer hunting season. He then requested the Commission to obtain an Attorney General's opinion on whether the law abides by the federal laws under the American Disabilities Act.

Dr. Robert Johnson explained how surgery for cancer has left him able to hunt with a crossbow only and now he would not be able to hunt during the archery season. The new regulation is in defiance of the Americans with Disabilities Act, stated Dr. Johnson.

Mr. Jeff Farrer asked if the Department did not recognize an increase in license sales with the change in crossbow regulations and how can it be abused when a person has obtained a doctor's statement explaining a person's disability. The way the new law is written and how it defines a handicapped person now would exclude 50 percent of the hunters. Mr. Farrer also asked that the meeting dates be changed or announced earlier so more of the public could be aware of it.

The next item, **Marsh Island Experimental Alligator Harvest** was presented by Mr. Johnnie Tarver and was for information only. The Russell Sage Foundation requested that notification be given on a Marsh Island alligator harvest which would begin in July 1996. In 1981, alligator research began on Marsh Island because of a unique situation; and in 1986, research projects were initiated which included annual harvest. From 1986 through 1995, 8,500 alligators have been harvested, 56 percent male and 44 percent females. The 1996 harvest would focus on growth rates, movement, dispersal, survival rates, contribution of farm raised alligators to the harvest and alternate time of harvest. A system has already been established with the harvest set at taking 750 alligators. Approximately $75,000 should be generated for the Department from

this project. Commissioner McIlhenny asked if the Department sells any alligator eggs from Marsh Island? Mr. Tarver answered no.

The **Monthly Law Enforcement Report for May** was given by Col. Winton Vidrine. The following numbers of citations were issued during the month of May.

Region I - Minden - 125 citations.

Region II - Monroe - 126 citations.

Region III - Alexandria - 223 citations.

Region IV - Ferriday - 112 citations.

Region V - Lake Charles - 107 citations.

Region VI - Opelousas - 145 citations.

Region VII - Baton Rouge - 284 citations.

Region VIII - New Orleans - 320 citations.

Region IX - Thibodaux - 212 citations.

Special Investigation Section - 79 citations.

Statewide Strike Force - 41 citations.

Offshore Boats (SWEP) - 6 citations.

Oyster Strike Force - 38 citations.

The grand total of citations issued statewide for the month of May was 1,914.

An Enforcement Aviation Report was also given by Col. Winton Vidrine. He stated for May 1996, enforcement pilots flew three airplanes for a total of 163 hours and a total of 36 citations were issued.

For the next item, **Division Reports**, Mr. John Roussel asked Mr. Jim Hanifen to give an update on the gasoline spill that occurred in Blind River. Mr. Hanifen stated the spill occurred on May 24, 1996 along the side of Airline Highway and consisted of 8,700 barrels of regular unleaded gasoline without additives. A fish and wildlife kill occurred because of the spill. Department staff from most divisions have been on the area almost from day one assessing the impact to that area. Also, the department has been working with Marathon Oil Company and other organizations to obtain information on the pre-assessment phase. Commissioner McIlhenny asked if it had been determined what caused the spill? Mr. Hanifen

stated it was a break in the pipeline and there may possibly have been a third party involved.

Secretary Jenkins stated he was informed that an attempt was being made to take away one of Louisiana's at-large seats on the Gulf of Mexico Fishery Management Council and give it to Mississippi. He did not agree that Mississippi should have this seat since Louisiana's coastline is three times larger than Alabama and Mississippi combined. Secretary Jenkins stated he has drafted and signed a letter to Mickey Kantor and forwarded it to Governor Foster for his signature asking that this action not be taken. He felt similar letters from anyone in Louisiana who felt the same way he did should be sent to Mr. Kantor or to the Congressional delegates. Commissioner McIlhenny asked how are the 10 at-large seats split on the Council? Commissioner Schneider suggested the Chairman should write a similar letter. Commissioner McIlhenny made a motion for the Chairman to write a letter and it was seconded by Commissioner Schneider. The motion passed with no opposition.

Mr. Hugh Bateman reminded everyone that the July Commission Meeting would be held on Tuesday, July 9 due to the first Thursday, July 4th being a holiday.

After several minutes of discussion, Commissioner Schneider made a motion to hold the **October 1996 Meeting** on Thursday, October 3, 1996 in the Baton Rouge office, beginning at 10:00 a.m. This motion passed with no opposition.

Chairman Carver then asked if there were any **Public Comments.** An unidentified speaker asked about a proposed change in the muzzleloader season for private lands and would it be considered at the next Commission Meeting. Chairman Carver stated it would be discussed at the July Meeting.

There being no further business, Commissioner Schneider made a motion to **Adjourn** the meeting and was seconded by Commissioner Hanchey.

James H. Jenkins, Jr.
Secretary

JHJ:sch

OUTDOORS/FINE POINTS/HORSE RACING

LWF panel wrestles with new disabled hunters act

By JOE MACALUSO
Advocate outdoors writer

After choosing the ring-neck duck as the subject for the 1997-98 State Duck Stamp competition, the Louisiana Wildlife and Fisheries Commission went about wringing their hands at Thursday's monthly meeting over the state's Disabled Hunters Act passed in the 1995 State Legislature.

One of the major stipulations of Act 1226 is that the Department of Wildlife and Fisheries must establish more stringent rules governing the issuance of special crossbow licenses to disabled hunters.

LDWF Wildlife Division managers have said this part of the law could reduce the number of crossbow license holders by as much as 90 percent. There were slightly more than 5,000 of these licenses issued in 1995.

Several crossbow-licensed hunters told commission members that Act 1226 was too exclusionary and would leave large segments of hunters without the legal means to use crossbows. These are hunters who cannot use customary archery equipment to participate in the state's archery season.

In 1995, handicapped hunters groups in the state marshaled their memberships to write the new law.

They attacked a long-standing state regulations that allowed any hunter with written notification from a physician to obtain a special crossbow license. The handicapped hunters claimed the regulations were too liberal and fostered abuse, that the simple process of requiring a doctor's note did not provide enough checks nor balances in the licensing process.

Commission chairman Glynn Carver said the LWFC's next step will be to seek a legal interpretation as to how the new law affects pre-existing state statutes, especially in the area which would allow the use of crossbows during the gun-hunting season.

State wildlife officials also expect a group of hunters who will lose their crossbow permits under Act 1226 to file suit claiming the new state law violates the Americans with Disabilities Act.

Leaders of handicapped hunters groups told commission members that they would back a regulation that would open up crossbow use to all hunters.

Master bowhunter education instructor Mike Fagan and Bayou State Bowhunters spokesman Russell Lantier said they were opposed to legalizing the across-the-board use of crossbows, that the weapons invite indiscriminate shooting because of inflated claims of a crossbow's accuracy.

The LWFC will vote in final rules to comply with Act 1226 at its Sept. 5 meeting.

Regulations for the 1996-97 hunting season on deer, squirrels, rabbits and quail will be voted on at the July 9 meeting.

The LDWF's Wildlife Division said artists will have until Nov. 1 to submit renderings of ring-neck ducks for state stamp competition, and learned that the Fur and Refuge Division is preparing for its annual experimental alligator harvest on March Island.

The Wildlife Division also announced plans to start an experimental waterfowl season that will allow hunters to enter a lottery for use of a three-hunter blind on a special area on the Red River Wildlife Management Area south of Ferriday. There will be 14 days of hunting, and applications are expected to be ready by Sept. 1.

In other action, the names of Richard Pesnell of Ruston, Slaughter's Dan Vidrine and Steven Costa of Mandeville were drawn to receive shotguns from among 1,279 hunters who participated in the wild turkey check-in program during the recent turkey season.

The LWFC also set is October meeting for Thursday, Oct. 3 at LDWF headquarters.

SPORTS BRIEFS

Advocate news services

BR Raceway to feature Sprint Cars

Cajun Sprint Cars will be the featured attraction tonight at Baton Rouge Raceway located on Plank Road eight miles north of Airline Highway.

Qualifying heat races and a sprint car feature race will help highlight the race schedule. Gates open at 5 p.m. Races starts at 8 p.m. General admission is $12. Children ages 7 to 12 will be admitted for $3.

Terry Vidrine is the points leader in the sprint division. Butch David, Michael Dupuy, defending champion Harold Henderson Jr., Darrell Hyde and Lane Whittington are the other contenders for the title.

Sprint cars are the fastest dirt race track cars. The cars weigh only 1,500 pounds and use methanol alcohol to fuel a V-8 engine.

Riverboat Gamblers begin road trip

NEW ORLEANS — After winning four of their last six games to lead the Central Division Select League, the New Orleans Riverboat Gamblers begin a four-game road trip when it faces the Tampa Bay Cyclones in a United Systems of Independent Soccer contest today.

Jamie Wellington named USISL player of the week

Ill., in the 41st round.

DiSalvo batted .331 with eight home runs, 43 RBIs and a school-record and SBC-leading 51 stolen bases.

Washam led UNO in hitting and is the first Privateer to win consecutive batting titles since Ted Wood in 1986-88. Washam hit .347 with seven home runs and 39 RBIs.

LC site of IPBL tryouts June 14-15

SUNSET — Louisiana Christian University will be the site of the International Professional Basketball League tryouts Friday and Saturday, June 14-15. Registration is $25. For more, call Ceasar Cervantes at (210)532-9802 or LCU's Tommy Schexnayder at 318-234-3228.

NLU safety Lee gets Ashe award

Northeast Louisiana free safety Reggie Lee is one of 300 athletes from 96 colleges in 42 states to be recognized as a recipient of the Arthur Ashe Jr. Sports Scholar Award.

The honor is presented by Black Issues in Higher Education. Lee has a 3.58 cumulative GPA in psychology and is a two-time GTE Academic winner.

Bodybuilding meet set for Saturday

SPORTS FINE POINTS

Advocate news services

CYCLING

Tour of Italy

MAROSTICA, Italy — Results Thursday in the 19th stage of the Tour of Italy cycling race, a 62-kilometer (38.4-mile) against-the-clock test from Vicenza to Marostica:

1. Eugeni Berzin, Russia (Gewiss), one hour, 13 minutes, 59 seconds or 50.300 kph (31.186 mph).
2. Abraham Olano, Spain (Mapei), one second behind.
3. Alexandre Gontchenkov, Ukraine (Roslotto), 48 seconds behind.
4. Pavel Tonkov, Russia (Ceramiche Panaria), 1:27 minutes behind.
5. Stefano Faustini, Italy (AKI), 2:24 minutes behind.
6. Carlo Finco, Italy (Magliificio MG), 3:02 minutes behind.
7. Piotre Urijumpv, Latvia (Roslotto), 3:03 minutes behind.
8. Davide Rebellin, Italy (Team Polti), 3:20 minutes behind.
9. Zenon Jaskula, Poland (Brescialat), 3:24 minutes behind.
10. Enrico Zaina, Italy (Carrera), 3:47 minutes behind.

Overall Standings (After 19 stages)

1. Pavel Tonkov, Russia, 85 hours, 29 minutes, 22 seconds.
2. Abraham Olano, Spain, one second behind.
3. Eugeni Berzin, Russia, 14 seconds behind.

BROADCAST SPORTS

Today's Schedule

TV

9 a.m.	Tennis, French Open	Ch. 33
Noon	Golf, PGA-Buick Classic	USA
12:30 p.m.	Golf, LPGA-Olds Classic	ESPN
2 p.m.	Tennis, French Open	USA
2 p.m.	Expos at Cubs	WGN
6:30 p.m.	White Sox at Orioles	WGN
7 p.m.	Phillies at Astros	Prime
7:30 p.m.	Blue Jays at Rangers	WBTR
8 p.m.	NBA, SuperSonics at Bulls	Ch. 33
8 p.m.	Braves at Rockies	WTBS
9:30 p.m.	Baseball Tonight	ESPN

Radio

7:05 p.m.	Phillies at Astros	WIBR-AM

All times furnished by and subject to change by networks.

Warthen 583 (214), Les Gendron 583 (224).
All Star — Helen Chapell 525 (212), Mary Eunice 523, Dottie Grantham 523 (200).

LOCAL BASEBALL

Metro League

	1	2	3	R	H
Broadmoor, Baker 2					
Broadmoor	3	3	6	16	13
Baker	1	1	0	2	5

Mike Woods, Jacque Abadie (4) and P.J. Musgrow, Eric Davis and M. Farris. W — Woods (1-0). L — Davis (0-1). LEADERS: Josh Dupuy and Mike Woods 3 hits each. Baker: Causey 3 hits. Next game: Broadmoor at Woodlawn Friday.

AAU BASKETBALL

Regional girls

	1	2	R
Tigers A 97, Domino's #3 55			
Lady Tigers A	47	50	97
Domino's #3	23	32	55

Tigers — Lamelka Washington 14, Margaret Eaton 11, Jessica Shanklin 10, Christy Netterville 10, Deidra Spears 10.
Next game: Tigers play North Louisiana 1 at 2:30 (in New Orleans at Riverdale).

TRANSACTIONS

COMMISSION MEETING
ROLL CALL

Thursday, June 6, 1996
Baton Rouge, LA
Wildlife & Fisheries Building

	Attended	Absent
Glynn Carver (Chairman)	✓	
Perry Gisclair		✓
Jeff Schneider	✓	
Daniel Babin		✓
Joseph Cormier		✓
Jerald Hanchey	✓	
Edmund McIlhenny	✓	

Mr. Chairman:

There are 4 Commissioners in attendance and we have a quorum.

Secretary Jenkins is also present.

AGENDA

LOUISIANA WILDLIFE AND FISHERIES COMMISSION
BATON ROUGE, LA
June 6, 1996
10:00 AM

1. Roll Call

2. Approval of Minutes of May 2, 1996

3. Aquatic Education Presentation - Paul Jackson

4. Announce 1997 Duck Stamp Competition - Dave Morrison

5. Public Comment, 1996-97 Hunting Regulations

6. Experimental Lottery Duck Hunts on Red River WMA - Dave Morrison

7. Turkey Season - Drawing for Shotguns - Danny Timmer

8. Use of Crossbow for Deer Hunting - Tommy Prickett

9. Marsh Island Experimental Alligator Harvest (Information Only) - James Manning

10. Enforcement & Aviation Reports - Winton Vidrine

11. Division Reports

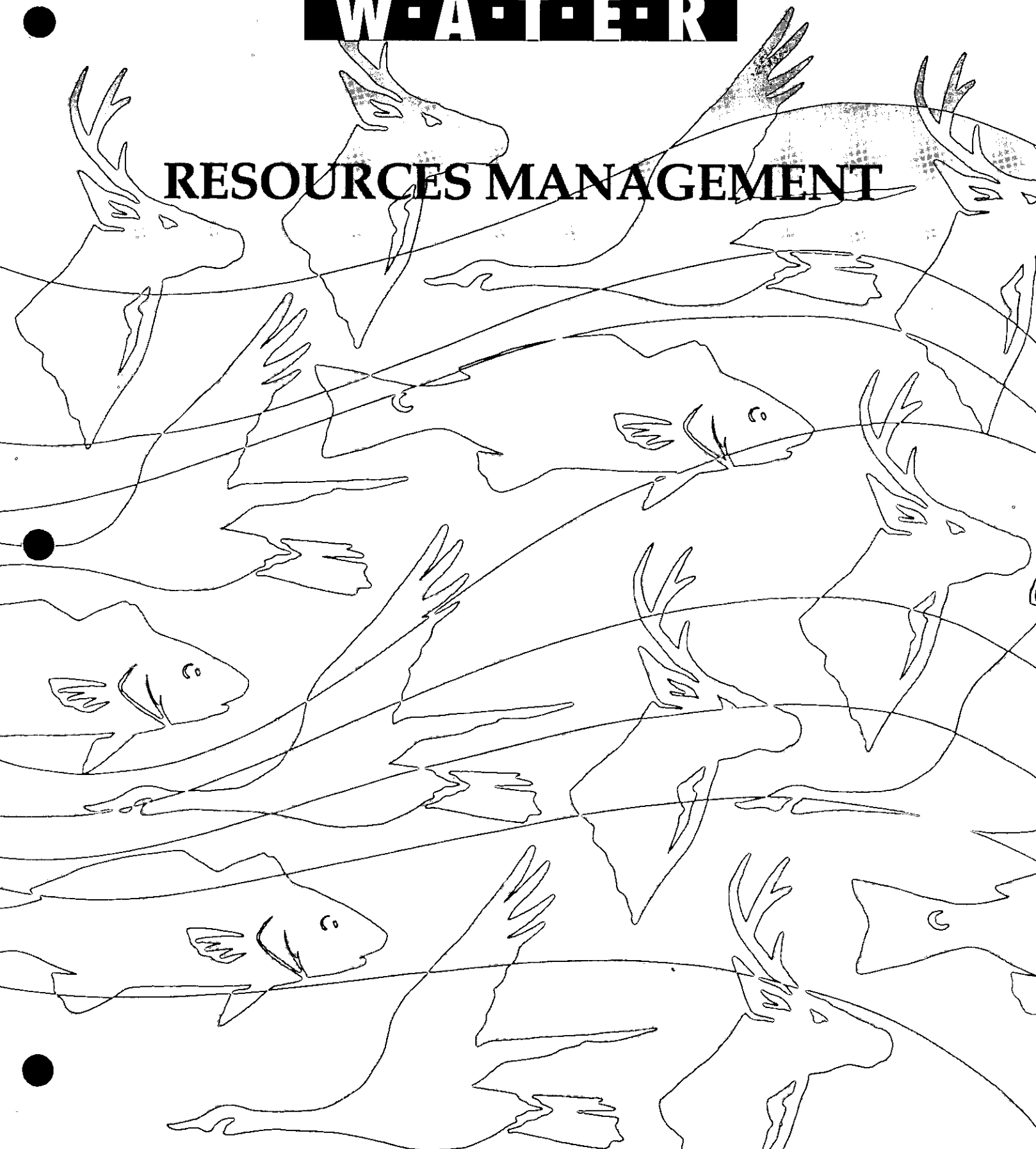
12. Set October 1996 Meeting Date

13. Public Comments

14. Adjourn

PROJECT
W·A·T·E·R

RESOURCES MANAGEMENT



WILD & ▪ AQUATIC ▪ TEACHERS ▪ EDUCATION ▪ RESOURCES

PROJECT W·A·T·E·R

Wild & Aquatic Teachers Education Resources

Production Staff

Lyle M. Soniat, Ph.D., Project Director
Eleanor Abrams, Education Writer
Sue Ellen Lyons, Mary Alice Cain, Faimon Roberts,
and Laurie Holton Crater, Script Writers
Elizabeth Coleman, Marilyn Barrett, Rodney Adams, Editors
Bonnie Grayson, Computer Specialist
Ken Varden, Art Director
John Brown, Artist
Brian O'Cain, Sara Baltz, Kyra King, Research Assistants

DEVELOPMENT TEAM

Robert Daigle, South Thibodaux Elementary School
Stacy Verhagen, Houma Junior High School
Faimon Roberts, Baton Rouge University Lab School
Sue Ellen Lyons, Holy Cross High School
Anne Collier, Baton Rouge University Lab School
Hannelore "Pepper" Davies, McMain Magnet School
Mary Alice Cain, East Jefferson High School

Acknowledgments

Funding for this portion of the project was provided, in part, by a grant from the United States Fish and Wildlife Service. Other funding for this program was made available from the Louisiana Department of Wildlife and Fisheries, the Louisiana Geological Survey, and the Louisiana Sea Grant College Program.

LOUISIANA SEA GRANT COLLEGE PROGRAM

U.S. FISH & WILDLIFE SERVICE

SPORT FISH RESTORATION

WILDLIFE & FISHERIES LOUISIANA

Using Project W·A·T·E·R Video

Project WATER is an acronym for Wild & Aquatic Teachers Education Resources. The purpose of this project is to examine key topics related to Louisiana's remarkable natural and cultural heritage and to explore areas that relate to the current curricula in life science, earth studies, and physical science. These topics will be used to teach science concepts and specific process skills.

Teachers recognize that the main problem with using video in instructional settings is that it is a passive medium. By including the classroom teacher in the discussion and activity process, this video program involves classroom teachers in the learning process, enabling them to "teach the moment." The teacher can effectively monitor the students' learning throughout the video program. Clarification of concepts can be instigated immediately rather than at the end of the learning experience. The questions and activities engage students in active learning, giving them opportunities to extract the concepts from the material.

These videos are designed to foster the development of skills needed to distinguish relevant from irrelevant information; to foster the development, understanding, and use of problem-solving models and skills; to promote an understanding of the complexity of ecosystems and the human and biological trade-offs associated with any human course of action; to help students recognize the interdependence of living things; and to capitalize on the diversity of students' talents, experiences, and abilities in classroom activities.

The videos focus on students' prior knowledge, experience, and values, engaging them in a problem or a special situation with open questions, and then offer opportunities to explore and develop appropriate problem-solving skills and knowledge. This is accomplished by providing students with experience, ideas, or events that lead to the restructuring of concepts into new theories. This video approach provides the environment in which new information is synthesized with the information the student already knows to create a rich conceptual network.

Each of the topics covered in *Project WATER* explains, expands, and reinforces certain science concepts presented in the video as well as in the questions and activities. The following describes how to most effectively use the videos through delineating key concepts, promoting critical thinking, and offering a variety of extension questions so that students can use their newfound knowledge in other contexts.

1. *Review vocabulary words with the class.* Reviewing the vocabulary words allows the student to understand each concept individually before it is linked with other concepts.
2. *Review learning outcomes.* By telling the students exactly what information they are expected to know by the end of the comprehensive learning unit, they are cued to information that will be relevant in the upcoming video.
3. *Ask the previewing questions.* The questions are designed to activate a student's previous knowledge. When the student relates new information to old information already in long-term memory, the student is more likely to learn and remember the new information. There is an answer key given; however, because of the nature of the previewing questions, the key is not all-inclusive and other answers should be considered.
4. *Show the video and have each student participate in the questions or activities embedded within the video.* It is not necessary to turn out the lights for TV viewing, though viewing may be improved if lights are dimmed over the screen. Overtaxed students may find it tempting to catch 40 winks in a darkened classroom. Be prepared to pause the tape for short discussions or stop the tape for activities. The video tape will provide a clear signal to begin the discussion. By preparing your

own discussion questions in advance, you will be able to take advantage of topical or related issues that may occur regionally. These intentional interruptions in the video change the student from a passive learner to an active learner involved in developing his or her meaning from the videos. The questions and activities allow for immediate feedback to help you identify and clarify concepts the student finds confusing. Students can also monitor the success of their own learning in class instead of at test time.

5. *Steer the class through the postviewing questions.* These questions allow the student to extend knowledge learned in the videos into different contexts by the use of critical thinking. The generalization of new knowledge causes the student to realize the relevancy of the information. A variety of applications encourages the student to remember and use his or her new knowledge in different situations. Some of the discussion questions can be used as the basis for a homework assignment or research project. There is an answer key given, however, because of the nature of the postviewing questions, the key is not all-inclusive and other answers should be considered.

6. *Assign the evaluation questions for homework and review next class period.* The questions may be graded at the teacher's discretion. Studies have shown that reinforcement and feedback are influential in helping students learn new material.

RESOURCES MANAGEMENT VIDEO GUIDE

Do you need a stove or refrigerator to survive? Anybody who has lived without electrical power for a few days knows of our dependency upon electricity. However, the need for an object depends on the time, location, and culture in which we live. Can you live without your car? As an industrialized nation, we believe we cannot live without oil and gasoline to run our cars and heat our houses, but our ancestors did one hundred years ago, and today many people in the Third World survive without using petroleum products.

Objects that have value and are available for our use are *resources*. Humans will protect and fight for them to insure their accessibility. As the world population increases, many resources will be in short supply.

Resources are divided into two broad categories. Certain resources, called *nonrenewable*, will become scarce as we use them because there is only a limited supply on Earth. Gold, oil, and coal are types of nonliving resources that do not regenerate themselves. Once used, they cannot be replaced. These resources must be managed carefully, so that their life and value are extended as far as possible. Some nonrenewable resources such as aluminum, can be recycled over and over to insure maximum usage. No matter how we manage them we have only a finite supply.

Other resources can replenish themselves. Trees are good examples. In rural India, a woman uses only a few pieces of wood to cook her family's food daily. All over the countryside, millions of women scour the land in search of combustible material. Sometimes half the day is spent looking for small sticks to burn. Trees are becoming scarce and are a valuable resource to the people in India. They are using this resource faster than the trees can regenerate and mature. Just because a resource replenishes itself, doesn't mean that it can be available to overuse indefinitely.

Unlike nonrenewable resources, forests can be replenished by seedlings or by surviving trees resprouting if given enough time and an undamaged environment. Any living resource that has the capacity to rebuild or restore itself when conditions for survival are favorable is called a *renewable resource*. Deer, rabbit, fish, and humans are all common examples of renewable resources.

Three conditions must exist for a depleted population to "renew" itself. First, a sufficient number of individuals must be left in the population to reproduce. The Carolina parakeet, a native bird in Louisiana, was hunted to extinction for its colorful feathers and meat, captured for pets, and killed by farmers. Once a renewable resource, the bird that existed in the millions now exists only in old pictures and historical drawings. It will never be seen again flitting among the cypress trees in Louisiana.

If a population contains only a few individuals, the species might not be able to survive. When the gene pool is very small, closely related individuals mate. If a population becomes excessively inbred, detrimental traits can surface. For example, some purebred dogs have chronic arthritis, back and hip displacement, or a high probability of cataracts. These disabling characteristics can limit a species' chance of survival.

Second, if the population is large enough to restore itself, the environmental conditions necessary for recovery must be favorable. Often the environment is altered as the resource is being utilized. For example in India, as trees were harvested, nothing was left to hold the soil in place. Water eroded the nutrient-laden topsoil into the rivers. Seedlings could not take root in the remaining barren substrate. Unless the topsoil is restored, the forests in India cannot be replaced.

In Louisiana, as the panther and red wolf were trapped, shot, and poisoned, the large tracts of wilderness that supported these *predators* were plowed under for crops or paved for cities. Today, there are very few areas of large unbroken woods left that can support the reintroduction of

carnivores (meat eaters) like the panther and red wolf.

Third, humans must allow the resource to regenerate. Even if the first two conditions are favorable, humans cannot continue to overuse that resource. They must manage to preserve, protect, limit, conserve, enhance, or extend its the value. In addition, humans need to improve the quality of the environment on which the resource depends. Wildlife management practices include regulating fishing and hunting, controlling predators, establishing refuges, and stocking areas with new animals. Habitat management includes burning marshes to encourage new and vigorous plant growth; providing brush piles for animal cover; and planting crops beneficial to waterfowl.

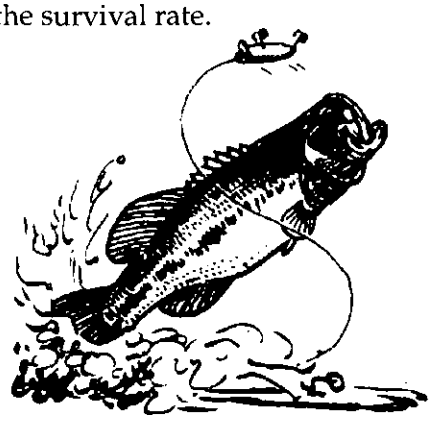
For example, fisheries management regulates the resource in three major areas.

1. **Regulations on harvest by humans**: To prevent humans from overfishing a species, managers use a variety of methods. Gear restriction is an effective human management tool. As a sportfisherman, you are allowed to use a rod and reel to catch game fish. Think about the number of fish you could catch by pulling a trawl net behind a boat or by throwing a stick of dynamite in the lake.

   Regulations restrict not only the gear type, but the size (*slot limits*) and number of fish (called the *creel limit*) you can catch. By prohibiting the harvest of small fish, resource managers insure that the fish reach a size to spawn at least once. (Every fisherman has wished for a "fish-stretching machine" for those fish just under the size limit.) By restricting the catch of the bigger trophy fish, managers insure that some of the best spawners survive each year to breed.

   Another important restriction is a limit on the time of year one can fish. *Spawning* or breeding seasons are often designated off-limits to both commercial and recreational fisherman in order to insure the successful production of offspring.

2. **Research**: Managers research the survival requirements at each stage of a fish's life: its habits, major *mortality* (death) and reproductive influences, types of food, preferred nesting sites, and needs for protection against predators. Then they can recommend regulations on gear restriction, size and creel limits, and seasons that will protect the fish, as well as provide an adequate population for sportfishing. In addition, fisheries managers test methods to enhance the fish's environment to increase the survival rate.



3. **Habitat and Species Enhancement**: *Habitat* is the arrangement of food, water, shelter, and space suitable to an animal's needs. It is the "life range" which must include food and water, as well as cover, to rear young, to escape from predators, and even to play. To enhance habitat, managers can use a variety of techniques, including manipulating water levels to control aquatic weeds. Species enhancement can include stocking programs and limiting access to certain fishing areas.

Conservation and management are interrelated in that conservation encourages responsible attitudes toward the use of renewable resources, while management is the action that springs from those attitudes. Conservationists believe that humans can use the surplus portion of a population so long as enough individuals remain to repopulate and the ecosystem is not damaged.

Conservation arises from the principle that all species reproduce more than necessary to replace themselves. Everyone has heard of human couples having twelve or thirteen children though two children would be sufficient to replace the couple. Female fish lay thousands of eggs during one spawning season. If the conditions are favorable, many survive and the population expands. If there are more individuals than the habitat is able to support, many will die. *Carrying capacity* is the number of individuals that the land or water can support indefinitely. Each piece of land,

because of its geology, climate, and water supply, has its own carrying capacity. It is a dynamic (changing) number dependent upon current environmental conditions. During favorable times, the habitat can support a greater number of animals. During unfavorable conditions, fewer animals can live on the same area. If there are excess individuals, they will die by predation, starvation, disease, or parasites.

For example, for much of its life, the large-mouth bass maintains a home range, fighting for the best spot in a lake or stream. The largest bass take the best log stumps, leaving the smaller fish without adequate cover. These unprotected fish sustain a high mortality rate, because it is easier for a variety of animals to prey upon them.

Often, excessively large populations can damage the environment before the population declines, further reducing the number of individuals the land can support. *Herbivores* (plant eaters) such as deer, elephants, nutrias, and beavers overgraze and damage vegetation when the populations grow larger than the habitat can support. Conservationists believe that humans can use that portion of the population that exceeds the carrying capacity of the land because these animals are doomed to die. Conservation, in effect, protects the environment from damage and sustains a generally healthier population.

Resource managers prevent the overuse or underuse of renewable resources much as a gardener tends to plants in a small backyard garden. Planting too many seeds in a garden will cause competition among plants for sunlight, water, and nutrients. The seedlings will become weak as they struggle to survive. The plants can strip the soil of needed nutrients and produce a substandard crop of vegetables. Planting only a few seeds produces a high-quality plant, but may not provide enough seeds for next year's crop.

An experienced gardener plants the right number of seeds in a well-fertilized, lighted garden. A strong crop of vegetables grows to be harvested. The gardener needs to decide how many to harvest to eat while insuring that there are enough seeds to plant next year. Eating all the vegetables leaves no seeds for next season. Eating some and planting some not only sustains him for this year, but for many years to come.

Both the U.S. Fish and Wildlife Service and the Louisiana Department of Wildlife and Fisheries use a number of management methods to maintain fisheries. These agencies enforce laws and regulations designed to prevent the overuse of fishery resources; hatch and raise popular game species for release into waterways; enhance fish habitats in streams, lakes, and reservoirs; conduct surveys to determine recreational needs so that they can provide access to popular lakes; and research specific management problems and issues related to fisheries. However, no management technique can work without the cooperation of the public. When people ignore regulations by overfishing, fish out of season, keep illegally-sized fish or pollute the waterways with trash, gas, and oil, it is impossible to maintain a healthy fishery.

The greatest influence on our natural resources is the growth of the human population. If we can maintain our population within the land's carrying capacity, the renewable resources will continue to support us. Responsible individual actions determine which species, including humans, will flourish and which will decline and disappear.

VOCABULARY

Aquaculture - cultivation for human use of animal populations that live in the water.

Carnivore - a plant or animal that needs animal flesh to survive.

Carrying Capacity - the number of individuals within a species the land can support for an indefinite period. Carrying capacity varies depending upon the abundance of the habitat components: food, shelter, water, and space.

Creel Limit - the number of fish that can be legally taken.

Electrofishing - a method of collecting fish for research with the use of an electric current that temporarily stuns the fish. Electrofishing allows researchers to collect fish and release them without permanent harm.

Estuaries - a partially enclosed body of water connected to the open sea. Thus, the sea water is diluted by freshwater draining from the land. An estuary is the site of interaction among sea, freshwater, land, and air.

Fertilization - the act of reproduction in fish.

Habitat - the arrangement of food, water, shelter, and space suitable for an animal's needs.

Hatchery - a place where eggs are hatched and larval fish raised to be released later.

Herbivore - an animal that eats plants only.

Natural Resources - a resource available from the environment that humans value or need.

Nonrenewable Resources - any form of matter that cannot regenerate itself and, once used, cannot be replaced—at least not in this geological age.

Population - the total number of individuals of one species in a defined area.

Predator - an animal that kills and eats other animals to survive.

Reservoir - a large pond or lake that holds water for later use.

Renewable Resources - living populations, such as plants and animals, which have capacity to renew themselves through reproduction (after part of the resource has been harvested for use or lost to natural causes) when conditions for survival are favorable.

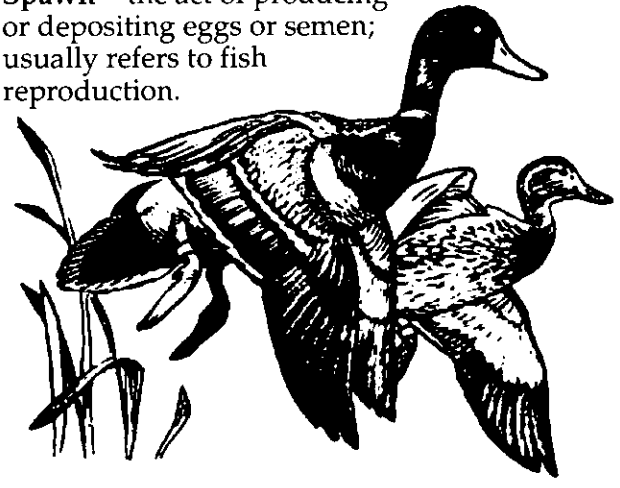
Resource Managers - people working to insure that renewable resources are properly used and enjoyed year after year. Resource managers can work in a variety of areas, such as law enforcement, habitat enhancement, research, and hatchery management.

Rotenone - a chemical used by fisheries biologists to kill fish in a defined area. Made from a plant extract, it degrades quickly and causes no permanent damage to the environment.

Seining - the act of catching fish by encircling them with a net.

Slot limits - the legal size of fish that can be caught. The size is determined by research.

Spawn - the act of producing or depositing eggs or semen; usually refers to fish reproduction.



LEARNING OUTCOMES

Students should be able to:

1. determine that animals and plants are renewable resources when managed properly.
2. describe the reasons that management is necessary for populations of plants and animals.
3. identify the social, economic, and ecological factors associated with human use of a resource.
4. describe the relationship between habitat and population.
5. recognize that land management can affect the survival of endangered, nongame, and game species.

PREVIEWING QUESTIONS

1. What would happen if people were allowed to catch as many fish as they wanted?
2. You are on a three-day fishing trip. You didn't catch any fish the first two days. All of a sudden, you throw your lure into a school of fish and within an hour you have the day's limit allowed by law. Since you didn't catch your limit on the first two days would you keep catching fish to make up for them?
3. You and two friends have fished all day. You have incredible luck and catch your limit before your friends finish catching their limits. Would you continue to catch fish and count them on your friends' limits?
4. A friend in your boat catches and keeps more fish than his limit. What should you do? Would your actions differ if that person were a stranger in another boat?
5. Why do you think we have wildlife and fishery law enforcement officers? Do you think people can regulate themselves?
6. You are almost finished catching your limit of speckled trout. You have moved the boat to a new spot and now you are catching much larger trout. Would you throw overboard the smaller fish in your cooler in order to keep the larger trout and stay within your limit? What if the fish in the cooler were still alive?

PREVIEWING ANSWERS

1. Certain fish populations would be diminished and other unwanted species could flourish.
2. Answers will vary. To keep more than one limit per licensed fisherman in a boat is illegal. Sportfishing is supposed to be for sport (fun). Our survival does not depend on the fish we catch. By not fishing over the daily limit, we can help to protect fishery resources for future use.
3. Answers will vary. The limits on the number of fish that can be caught in a day are not based on the premise that every fisherman will catch a limit every day.
4. Answers will vary. Technically, the friend broke the law and should have to pay a penalty. If people do not stay within regulations, fisheries populations could be depleted.
5. Answers will vary. We have law enforcement officers to insure that untrustworthy people obey the laws. Aldo Leopold, often called the father of conservation, thought that until all people believe that they are dependent on one another and the environment, some people will break laws designed to protect the environment.
6. Answers will vary. Throwing smaller fish overboard, even if they are still alive, is wasting the resource. The fish are unlikely to live because they have been out of water, and the slime that coats their bodies to protect them from parasites and disease will have rubbed off.

POSTVIEWING QUESTIONS

1. Make a list of several animals found in Louisiana. Choose a game species, a nongame species, and an endangered species. Next to each name describe one method of management that may be used to maintain its population.
2. Even though Rotenone kills fish, why does it give researchers a more accurate picture of what is in the water than other research methods?
3. What would you recommend if you were a wildlife biologist and wanted to introduce wild turkey into an area? What information about the area and a turkey's habitat needs would you need to make an informed decision?
4. How would the addition of a new species of predator affect other prey and predator species?
5. Review the previewing questions. Would your answers to any of these questions now change?

POSTVIEWING ANSWERS

1. a. Deer - limit the number killed.
   b. Hummingbirds - plant flowering shrubs, hang hummingbird feeders.
   c. Louisiana black bear - protect bottomland hardwoods from destruction.
   d. Fish - protect waterways from pollution.
   e. Squirrel - allow hunting only in the early fall, when there is more foliage on the trees, making hunting more challenging.
2. All fish are killed, from small larval fish to fish at the top of the food chain, enabling researchers to understand predator-prey interactions between species. They can also determine how many fish may have been spawned that year.
3. A wildlife biologist would determine if, in the past, there were turkeys on the land. If turkeys were historically a part of the natural system and the landscape has not been altered radically, turkeys have a chance of being successfully reintroduced. Its life history would be needed to determine the land's suitability as turkey habitat. Habitat needs include water, food, space, and cover in suitable arrangement for all the different stages of a turkey's life.
4. A new predator could out-compete native predators for prey, causing the native predator populations to decline. This new predator could depress a prey population, allowing another prey species to flourish. For example, the mongoose was introduced onto the Caribbean islands to control the rat population. However, rats are active at night and mongooses hunt during the day. The mongoose preyed on bird eggs and fledglings, causing the songbird population to decline, and on snakes, one of the few predators of rats. The rats continue to flourish in the sugarcane fields of these tropical islands.

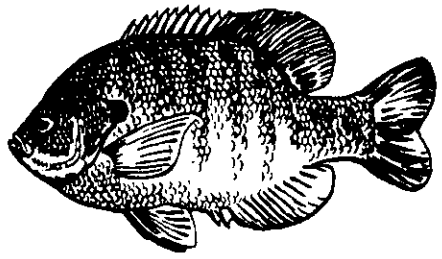
5. Answers will vary. The students' answers should be more informed.

EVALUATION QUESTIONS

1. What is the role of our state government in keeping game fish populations healthy?
2. Sketch a picture of your backyard. As a budding resource manager, draw some modifications to your backyard that would enhance the habitat potential for wildlife such as birds, bats, insects, and other animals?
3. How can you as a citizen help to "manage" wildlife?
4. What would you recommend if there were too many deer in a wildlife management area?

EVALUATION ANSWERS

1. a. Hires resource managers to research fish habitat and life requirements to recommend creel and slot limits, gear type, and seasons for the safe harvest of certain fish species.
   b. Builds hatcheries to raise fish for restocking in the wild.
   c. Enforces laws and regulations so that fish populations won't be depleted.
2. Answers will vary. Plant fruit trees and seed-bearing flowers for food, supply bird baths for a water source, plant shrubs for cover.
3. a. Don't throw trash in our water.
   b. Obey hunting and fishing regulations.
   c. Be aware of the types of management plans designed to conserve the natural resources and the reasons they were implemented.
4. You could capture and transport the deer to a less crowded area. However, this would be expensive and deer populations are large across most of the United States. A controlled harvest of bucks and some does would lower the population and generate income to support and enhance the wildlife area. Usually more bucks than does are harvested because a reduction in the number of bucks does not alter the reproductive capacity of the herd. The largest and most aggressive male guards a herd of females until mating season. The other males travel in bachelor herds and do not participate in mating. Therefore, one male impregnates many females. This harvesting strategy would not work with species in which one female mates with one male.



INTERACTIVE COMPONENT

The teacher should prepare for the interaction components by previewing the video before the class. This will enable the teacher to pause the tape at the appropriate moment and direct the discussions. At these points, class discussions can begin either in small cooperative groups or as a class. This question-and-answer segment is initiated by pausing the tape after each question. For example, the video teacher asks: What would happen if you planted too many seeds in a small backyard garden? The classroom teacher then pauses the video tape at the signal and elicits answers from the students. Additional follow-up questions are suggested if the teacher wants to explore associated avenues of thought. After discussion, the viewing of the video is resumed and the video teacher provides immediate feedback.

VIDEO QUESTION 1:

What would happen if you planted too many seeds in a small backyard garden?

ANSWER:

If you planted too many seeds, you would have lots of plants. The seedlings would be competing for the available light, water, and nutrients, and they would not be as tall, strong, and healthy as they could be.

Follow-Up Question: Can you think of some reasons people are taller today than in the Middle Ages?

Answer: The lack of protein, vitamins, and other nutrients did not allow humans to grow to their full potential.

Follow-Up Question: Key deer are a species of deer that live on the Florida Keys. These deer are smaller than other species of deer on the mainland. Can you think of any reason that their genetically smaller body types might have helped them survive on the islands?

Answer: A smaller body size may have been advantageous on the islands. There are no large predators, but the island resources such as food, water, cover, and space are limited. Smaller deer would have a better chance than larger ones of surviving and reproducing.

VIDEO QUESTION 2:

What would happen if you planted the right number of seeds in your garden, but let your friends come and pick all the fruits and vegetables as they ripened.

ANSWER:

If you picked all the fruits and vegetables that grew in your garden as they ripened, you wouldn't have any seeds left over to plant next year's garden.

Follow-Up Question: What happened to the alligator and heron populations during the unlimited harvest of the late 1800s?

Answer: Many different species of herons were killed for their plumage, used to decorate women's hats. Alligators were killed for their hides to make belts, boots, and other leather goods, but they were also killed for sport and pleasure. These species declined dramatically, almost to the point of extinction.

Follow-Up Question: Are herons and alligators extinct today? Why not?

Answer: By protecting them from harvest, eventually the populations expanded. Today, herons are flourishing and some wild alligators are trapped for their skin and meat.

Follow-Up Question: What would happen if no fruits or vegetables were harvested from your garden? Would every seed germinate, grow, and reproduce?

Answer: No, there would be too many fruits and vegetables for the garden to support. The excess fruits and vegetables would rot and provide nutrients to the seeds that did sprout.

Follow-Up Question: What happens to the offspring in fast-growing populations such as nutrias? If we did not trap a portion of the population annually, would every one of the babies grow up to adulthood and reproduce?

Answer: No, the analogy of the garden is the same for the nutria. A wetland can only support a certain number of nutrias. The excess die of starvation and disease because nutrias have few natural predators.

Follow-Up Question: One of the reasons for the redfish decline in Louisiana was that few redfish survived to leave the estuaries to spawn in the open waters of the gulf. Recreational fishermen caught the redfish before they could spawn once. As a resource manager, what would you recommend to help remedy the situation?

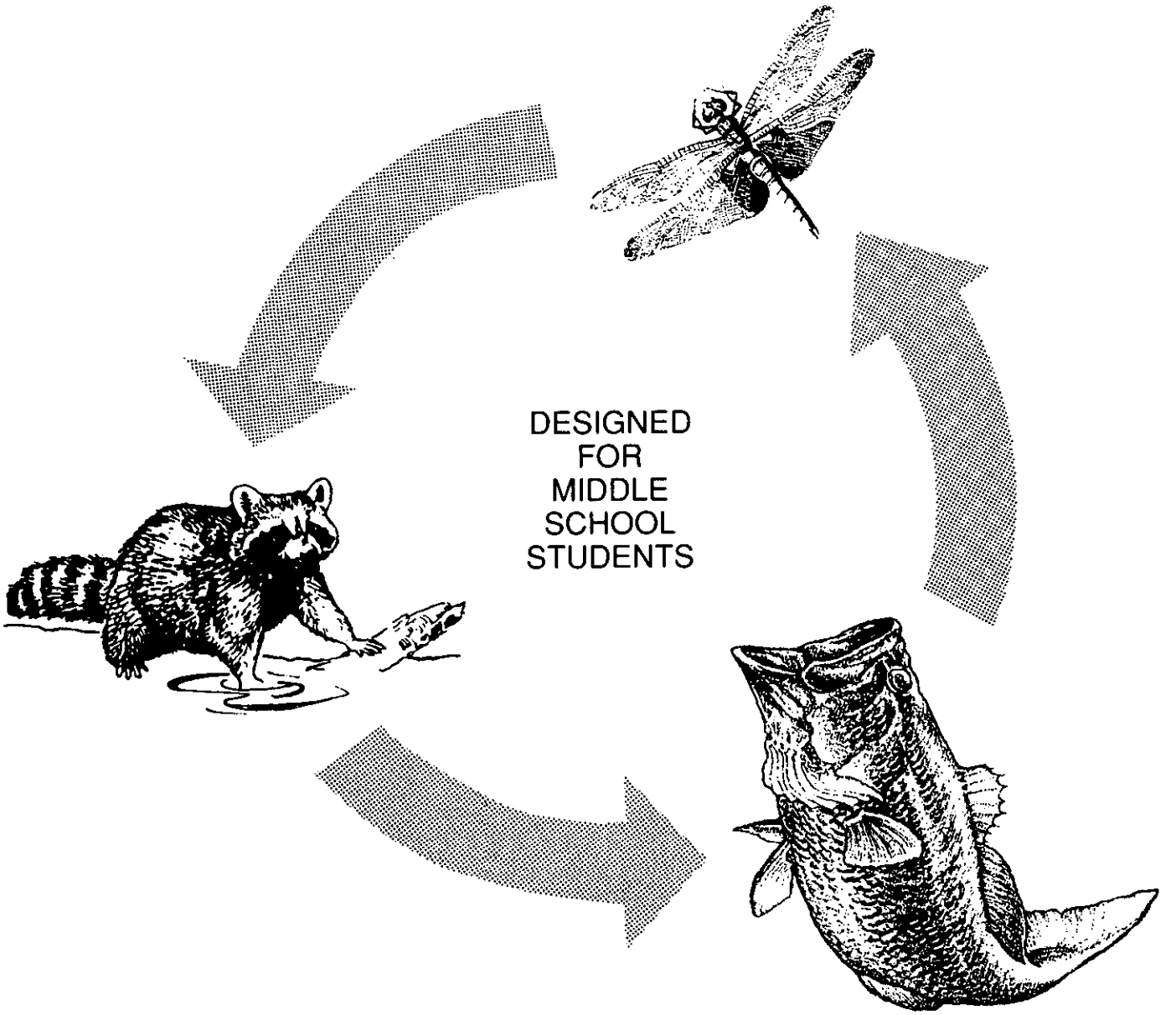
Answer: Concerned resource managers wanted to insure that a certain percentage of first-time spawners escaped the estuaries to spawn in the Gulf of Mexico. They recommended limiting to five the number of redfish that recreational fisherman could catch per day.

EXTENSIONS

1. Give several examples of how animals have been brought from near extinction, either regionally or globally, and explain how. Herons, alligators, turkeys, antelopes, and buffaloes are a few species to research.
2. Explain how protecting a species is often tied to its outward appearance. For example, would you give money to protect a baby seal before you would donate to protect an endangered snail? Research the word "anthropomorphism" and how it affects the way people want to save wild animals.
3. Research the redfish controversy in Louisiana. Divide the class into recreational and commercial fishermen and have each group defend its practice of utilizing the redfish resource.
4. Explain why human populations increase exponentially while animal populations tend to fluctuate. What problems do you see as the human population continues to increase?

Wetland Activities

FOOD CHAIN • FOOD WEB • ENERGY FLOW



DESIGNED
FOR
MIDDLE
SCHOOL
STUDENTS

Eleanor Abrams
Lyle Soniat

Louisiana Department of Wildlife and Fisheries
Louisiana Sea Grant College Program

These activities and background information were developed to be used with the Audubon Freshwter Marsh and Saltwater Marsh Poster. The posters are available from your local Audubon Society or from:

National Audubon Society
Route 4
Sharon, Connecticut 06069
(203) 364-0520
The price for the poster will vary according to the number purchased.

The activities may be duplicated and used for educational purposes, however, they are not to be resold.

Eleanor Abrams, Marine Educational Specialist
Lyle M. Soniat, Marine Educational Specialist
Ken Varden Cover Designer
Bonnie Grayson, Graphics

The activities were developed as a part of the Louisiana Department of Wildlife and Fisheries Aquatic Education Program. To obtain information on how to receive this educational material contact:

Paul Jackson, Aquatic Education Coordinator
Louisiana Department of Wildlife and Fisheries
1213 North Lakeshore Drive
Lake Charles, La 70601
(318) 491-2585

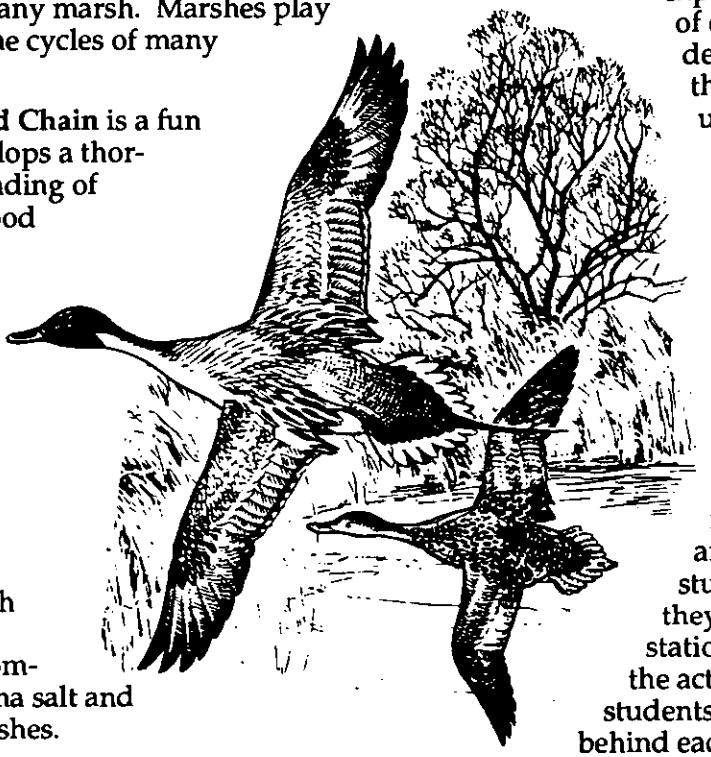
LOUISIANA
SEA GRANT
College Program

Using *Wetlands* Activities with the Audubon Freshwater Marsh/Saltmarsh Poster

The *Wetlands* unit includes three activities that are designed to promote an understanding of the transfer of nutrients and energy through food chains and food webs. Students recognize the interdependence of all living things by this comparison. The activities use the poster to illustrate the basic ecological components of a wetland ecosystem, their relationship via food chains, and finally the flow and loss of energy in a saltwater and freshwater marsh ecosystems.

A. The **Marshes Everywhere Activity** provides an opportunity for students to observe and identify the ecological components of any marsh. Marshes play a vital part in the cycles of many species.

B. **Fish For A Food Chain** is a fun game that develops a thorough understanding of food chains. Food chains are an effective device to help students understand interdependence. In addition, students will have an opportunity to develop some food chains with plants and animals that are common in Louisiana salt and freshwater marshes.



C. **Energy—Is There Enough To Go Around?** is aimed at developing an understanding of energy flow and loss and the impact of energy movement in a food web.

Preview each activity and gather any needed materials before trying them with the students. Take note of the vocabulary words given and go over those unfamiliar to your class. Develop some discussion questions for the closure of the activity to help extend the students' newfound knowledge into other contexts.

With the class, review the **Background Information**. Use the **Freshwater Marsh/ Saltmarsh Poster** to help students visualize the information. Make sure to review new vocabulary words with the class. Reviewing the vocabulary words allows the student to understand each concept individually before it is linked with other concepts.

Review the learning outcomes. By telling the class exactly what information the student is expected to know by the end of each activities, the student is cued to information that will be relevant in the upcoming activity.

The activities can be done as a class, but it is recommended that they be used with small groups (three or four) of students. If your class is small enough, it can be divided into four groups (there are two decks of cards in the second activity). Activity stations can be set up around the classroom. As students finish each activity, they can rotate to another station. Make sure to monitor the activities to insure the students understand the concepts behind each activity.

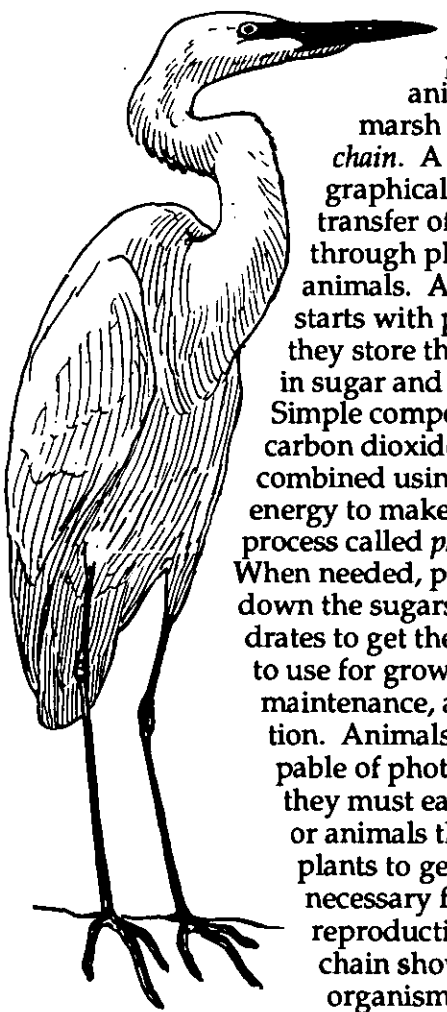
As a class, answer the evaluation questions at the end of each activity. These questions allow the students to extend the knowledge learned in the activities into different contexts by the use of critical thinking. The generalization of new information is important. The more representations the students have of the new information, the more they can use it in different situations.

WETLANDS—FRESH AND SALT

BACKGROUND INFORMATION

General Marsh Ecology

Marshes are an important interface between the land and open water. Life forms are complex and diverse because of the combination of aquatic and terrestrial environments. For example, marshes serve as breeding, resting, and wintering grounds for many migratory birds. Often, open-water organisms move temporarily to wetlands to locate needed food. Besides being areas of high food productivity, marshes are prime areas for spawning eggs and for juvenile young to feed and grow. The young of many species remain in marshes for extended periods of time and then migrate to other environments. Numerous species of fish are directly dependent upon marshes for food, protection, and reproduction.



As in any environment, every plant and animal in the marsh is part of a *food chain*. A food chain graphically depicts the transfer of energy through plants and animals. Any food chain starts with plants because they store the sun's energy in sugar and carbohydrates. Simple compounds such as carbon dioxide and water are combined using the sun's energy to make food in a process called *photosynthesis*. When needed, plants break down the sugars and carbohydrates to get the stored energy to use for growth, tissue maintenance, and reproduction. Animals are not capable of photosynthesis, so they must eat either plants or animals that have eaten plants to get the energy necessary for survival and reproduction. All a food chain shows is which organism is eating which plant or animal.

Organisms that consume similar food in an ecosystem are assigned the same *trophic level* or *consumer level*. So a simple food chain can consist of several different trophic levels. *Primary producers*, or plants, are the first trophic level. They are able to use the radiant energy from the sun to combine carbon dioxide and water to form food. *Primary consumers* are animals that eat plants. *Secondary consumers* eat primary consumers, and *tertiary consumers* eat the secondary consumers.

The individual trophic or consumer levels are further broken down to show the types of foods that animals typically eat. *Herbivores* eat only plants, so they can only be found in the first trophic level of a food chain. *Carnivores* eat only meat, so they can be either a secondary or tertiary consumer. The kind of prey the carnivore is eating designates its temporary consumer level. For example, if a speckled trout eats a fish that has eaten a primary consumer, the trout is a secondary consumer. However, if the speckled trout eats a fish that has eaten a shrimp, then the trout is a tertiary consumer. The last consumer type is the *omnivore*. Omnivores eat plants and animals and, like carnivores, their consumer level is determined according to the plants or animals they recently ate. For instance, a human is an omnivore. If a person eats vegetables, he is a primary consumer. If he eats a steak, he is a secondary consumer. Finally if he eats a speckled trout, he would probably be a tertiary consumer.

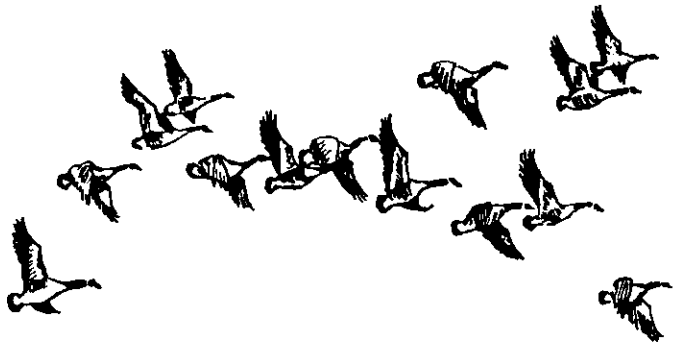
As shown above, animals eat a variety of foods. While a food chain cannot show the different kinds of prey an animal can eat, a *food web* can. A food web illustrates the relationships among the consumer types by showing the variety of food an animal might eat in an ecosystem. In addition, decomposers are shown within the food web diagram. *Decomposers* are organisms that feed on dead plants and animals, releasing the energy and nutrients trapped in the dead tissue. The energy is used by the decomposers to live, grow, and reproduce, but nutrients go back into the soil to be used by plants. **All matter is recycled in an ecosystem.**

However, energy does not recycle. **Energy flows through an ecosystem, and some is lost at each trophic level.** Sunlight must pour upon the earth for life to continue. Without the sun, plants and animals would not be able to live,

grow or reproduce. Plants capture energy from the sun and that energy is transferred through the food web. In all life processes, such as respiration, growth, tissue maintenance, and movement, heat is given off into the atmosphere. Therefore, energy is lost at each trophic level. At each successively higher level of the food chain, there is less of the original sun energy captured by the plants. In fact, about 10 percent of the energy of one level is passed on to the next level.

For example, a shrimp (a primary consumer) eats a plant and gains 100 calories of carbohydrates. If a flounder (a secondary consumer) eats the shrimp, the flounder gains only 10 calories of the original 100 calories of food energy, because the shrimp will have used up 90 calories in living.

Biologists often represent the flow of energy in an *energy pyramid*. With its broad base, steep sides, and narrow peak, the pyramid represents the loss of energy through the trophic levels. The ecosystem can support many primary consumers, such as rabbits and shrimp, because they eat plants. Remember that plants are low on the energy pyramid and most of the sun's energy has not yet been lost in the form of heat. However, the ecosystem is able to support relatively few tertiary consumers, such as wolves or speckled trout, at the peak. Because of the energy lost and the large amount of food energy required to sustain large predators, there is not enough energy to support a great number of them.



Louisiana Life in Coastal Marshes

Louisiana's saltmarshes and freshwater marshes play an important part in Louisiana's economy. According to recent figures from the U.S. Army Corps of Engineers, Louisiana wetlands produce $17 million worth of furs and hides and $680 million worth of commercial fish and shellfish annually. In addition, $299 million are spent each year on boating and sportfishing and $38 million on waterfowl hunting. The fur and hides produced represent 25 percent of the nation's entire harvest. Louisiana has the largest coastal fin fishery and shellfishery in the country, producing two billion pounds of fish and shellfish annually. This represents 30 percent of the nation's annual commercial harvest. The wetlands are the wintering ground for two-thirds of the ducks and geese that migrate south down the Mississippi flyway each year. The marshes provide recreational opportunities for the sportsman. The associated revenues from licenses and taxes on recreational equipment support state-sponsored programs. Louisiana's coastal wetlands and offshore waters produce about one-sixth of the nation's oil and one-third of its natural gas.

The Louisiana coastal zone is a remarkable geographic feature. Preserving and protecting it for its natural beauty, commercial and recreational value, and cultural heritage is a responsibility for all of us.

Problems with Louisiana Coastal Marshes

Coastal marshes were formed by deltaic growth in the eastern part of the state. In the western part of the state, coastal marshes were formed from sediments produced primarily from the erosion of deltas. The sediments were transported by westward oceanic currents and added to sediments transported from rivers. The Mississippi River has been the major source of sediment. It has altered its course at least six times over 7,000 years, creating major delta complexes from the Mississippi-Louisiana border to the Vermilion Bay in south central Louisiana. As the river builds, a delta expands farther and farther out into the shallow shelf areas of the Gulf of Mexico. However, as new land builds, the Mississippi's course becomes long and inefficient. It then seeks a shorter path to the Gulf, because water always seeks the path of least resistance. This course change starts a new delta forming in a different location. The old deltaic lobe, no longer actively fed by river sediment, slowly subsides as its soft sediments compact, leading to erosion and, finally, deterioration and disappearance. With new deltas always building, there was continual net marsh gain until the early 1900s when the Mississippi River's flow was finally contained by levees.

Before the Europeans came, native Americans were adapted to the changing Louisiana coastline. Their lifestyle was migratory and they moved from place to place as the landscape of

Louisiana regularly changed. Later settlers arrived and built structures that allowed for regular flooding, but the pioneers wanted to own and use the land's natural resources. As Europeans, they were used to static conditions, expecting land that existed today to exist tomorrow. They were unfamiliar with Louisiana's dynamic landscape, which is unlike most other parts of the United States. They wanted the Mississippi to stay on the same route, so they could build cities and farms. Thus, the battle to control the Mississippi began and is still continuing today.

Historically, the river's sediment load flowed into the wetlands and nurtured the marshes. While the lower Mississippi River has been leveed to some extent for about 250 years, the levees were privately built and maintained. The river often broke through these low poorly constructed levees. The U.S. Army Corps of Engineers succeeded in containing all the river within the levees and floodways in Louisiana after the devastating flood of 1927. Today, the river deposits most of its sediment load in the deep waters of the Gulf of Mexico beyond the continental shelf, thereby losing much of its potential for creating new marshes in shallower areas.

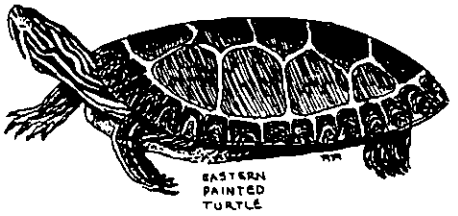
Leveeing is not the only problem. Man is accelerating the natural subsiding and eroding process of old deltas. Access canals for oil and gas drilling, pipelines, and navigation channels all contribute to this loss. Depending upon how this dredged material is deposited onto the marsh vegetation, it could enhance or be destructive to marshes (If it is blown, it will actually build marsh.). Dredging to form and maintain these canals removes sediment from the marshes. However, spoil banks (piled-up dredged material) can prevent the free flow of sediment-carrying water through the marsh. Also, the natural tidal channel is halted by the spoil banks, and nutrients from the ocean are no longer available for the vegetation. Without the ebb and flow of the tides, saltmarsh plants and surrounding soil are never exposed to the air. This exposure is necessary because it allows for the release of toxins that build up in waterlogged conditions. Without this release, saltmarsh plants sicken and die. When the plants die, the soil erodes, and open water is left.

Another activity that can affect marsh loss is the extraction of oil and gas, which can lead to land subsidence. As these materials are removed, a sinking of the soil occurs. Bank erosion causes the widening of canals and natural waterways. Boat wakes washing against the banks can cause unprotected canals to double in width in as few as 20 years.

The one exception to this land loss is occurring at the mouth of the Atchafalaya River. At present, 30 percent of the Mississippi's water and sediment is diverted by the Old River Control Structure into the Atchafalaya River. This diversion has increased delta formation in Atchafalaya Bay. While Atchafalaya delta is the fastest growing and largest new delta in North America, the new delta is not enough to offset land loss in other coastal marshes.

Wetland loss in Louisiana is caused by a combination of natural and man-made influences. Wetland loss would be occurring regardless of human intervention. Remember, a mature delta is abandoned by the Mississippi River, and without the input of new sediments, the land subsides. However, with the changing of the Mississippi a new delta and new wetlands are formed in another part of the state.

Man has interfered with the natural deltaic cycle. By leveeing the Mississippi, the river can not change course and create a new delta. In addition, man's activities have increased loss in the already existing deteriorating coastal wetlands.



Freshwater Marshes

Few people realize the importance of freshwater marsh resources to the early settling of America. Trappers in search of beavers and other furbearers that were abundant in Louisiana marshes mapped rivers and founded outposts. These outposts later grew into settlements such as New Orleans, Baton Rouge, and Natchitoches. Settlers utilized the freshwater marshes' natural resources to feed, clothe, and shelter them.

Too often, though, marshes were viewed as mosquito-infested wastelands to be used for dumping grounds for trash or to be "improved"—that is, drained or filled for agriculture or construction. Drainage had begun as

early as the settlement of New Orleans in 1718, and alterations of freshwater marshes and other wetlands have since been carried out on a massive scale.

This loss is prevalent here because Louisiana is richly endowed with wetlands. As much as 40 percent of the wetlands in the lower 48 states are in Louisiana, and this state is experiencing the greatest wetland loss. One of the first values of freshwater marshes observed was the marshes' importance as habitat for wildlife, particularly waterfowl. As wetlands across the nation were destroyed, populations of ducks and geese declined. By 1956, the U.S. Fish and Wildlife Service had developed a wetlands classification based on their value to wildlife and instituted programs to protect environmentally sensitive wetland areas.

Ecology

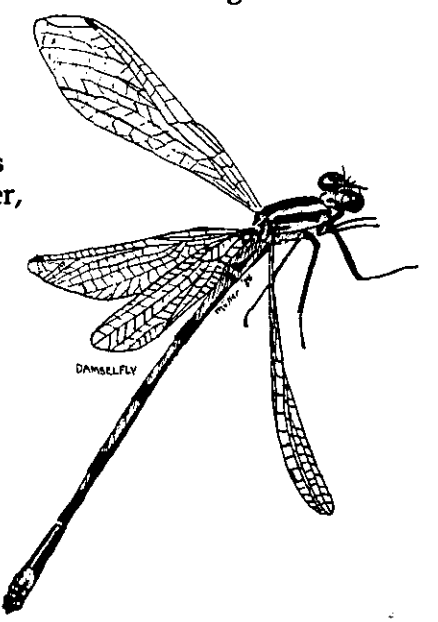
A freshwater marsh, unlike a swamp, is an area dominated by nonwoody, or herbaceous, plants. Often the vegetated areas are interspersed with patches of shallow water. Marshes may be flooded for all or only part of the year. However, they must be flooded enough to sustain vegetation that is adapted to living in water-logged conditions—plants like cattails, reeds, arrowhead, and pickerelweed. (See **Freshwater Marsh Poster.**)

Freshwater marsh communities include habitat for a variety of plants and animals adapted to live in wet conditions. A habitat provides the food, shelter, water, and space an organism needs to survive. For example, a sac-au-lait needs small insects to eat, submerged vegetation in which to hide from predators, water to live in, and enough room to have a territory. A freshwater marsh can provide habitat for sac-au-lait, bass, and many other fish species. Numerous birds, such as songbirds, wading birds, and waterfowl, nest and raise their broods among the vegetation. Many mammals, such as deer, muskrat and nutria, live in the marsh or visit to feed. The exact plant species composition of any particular marsh depends on many things, including geographic location, water chemistry, depth of water, duration of the flooding season, and climate.

Flood Control and Water Quality

At first, wetland preservation was focused on protecting wildlife habitat. Now people are discovering that wetland preservation can provide some alternative solutions to water supply problems. Flood control is a natural function of marshes. Their soils and vegetation act as natural "sponges" that have a tremendous ability to absorb and retain excess water. This storage capacity can save the adjacent area downstream from flood damage. In addition, the presence of wetlands along shores and riverbanks helps to protect those areas from erosion. Root systems of the plants hold soil that would otherwise be washed away.

Some of the excess flood water stored in marshes evaporates, while, some may be fed slowly into streams. Still more of the water may seep underground to recharge the water table. This recharge depends on the soil layers between the marsh and the groundwater. Where the soil is permeable (allows water to flow through spaces between the soil particles), water will seep through. This recharge is important, especially where groundwater is being pumped out to supply human needs such as in Baton Rouge. When marshes are destroyed or paved over, rainwater (instead of being held and slowly seeping into the groundwater supply) runs off into streams and is no longer available for use.



Besides helping to recharge the water supply, wetlands function as a filter, removing some pollution and sediment from the water. Because the wetlands slow and hold the water, sediment particles such as sand, silt, and clay can settle out. Excess nutrients in the water from agricultural run-off are broken down by bacteria and other microbes and absorbed by the marsh plants.

When wetlands areas are developed by draining, dredging, filling, or channelization, wastes are no longer purified by normal biological functions. This can result in pollution of the water supply. Some marshes can even process human waste as long as nutrient loads are not excessive and the contents are not too toxic. However, large amounts of pesticides or heavy metals would overload any ecosystem and threaten the health of the marsh.

Saltwater Marshes

Saltmarshes can be found in many coastal areas where the land meets the ocean. Coastal saltmarshes contain flat, soggy land riddled by small channels of water. During each tide, saltwater floods the channels and soaks into the soil. Organisms in these wetlands must adapt to the rigors of constant change. Temperature, salinity, moisture, and available oxygen fluctuate as the marsh is constantly flooded and drained.

While few species can tolerate these challenges, the plants and animals that have adapted can grow abundantly. Plants such as cordgrass and glasswort have special adaptations such as glands for eliminating excess salt. Animals have their special adaptations too. During low tide, fiddler crabs and clams burrow into sand and mud for shelter. Barnacles close their shells tightly to keep from drying out. (See **Saltmarsh Poster.**)

Salt marshes are among the world's most productive ecosystems. Marsh productivity begins as the sun's energy is captured by marsh plants. The plant roots hold the thick shiny mud of the salt marsh and this encourages the growth of other plants such as algae and phytoplankton. When the plants are eaten, the energy is transferred to other organisms. Animals that eat the plants in an ecosystem benefit from the energy and nutrients that are stored in the plants. In turn, these animals are eaten by wading birds such as the great blue heron, whose diet includes fish, crabs, and worms. As the plants and animals in the wetland die, bacteria growing in the mud act as decomposers, freeing nutrients and making them available once again for other plants, algae, and bacteria.

The Detrital Food Web

Marsh plants can also support abundant animal life. Only a few animals feed directly on living cordgrass. More often, the organic material in these plants is consumed after the plants die, when it is broken down into *detritus*. Detritus is plant material enriched with bacteria. Fiddler crabs, snails, insect larvae, bacteria, clams, and even some fish such as mullet and menhaden feed on the detritus. Tides carry some of the rich detritus from marshes into adjacent shallow oceanic areas where it enriches the productive bottom-dwelling communities that include oysters, clams, worms, mudworms, plankton, and fish.

Wildlife

Many birds and mammals find food and shelter in the saltmarsh. Muskrats and nutrias feed directly on the plants. Other animals, such as raccoons, otters, and minks come in search of crabs and mussels. Marshes also provide feeding and resting stops for migrating and wintering birds. Other nonmigrating birds nest in marshes where they eat insects, snails, crabs, and small fish and raise their young.

Saltmarshes provide temporary habitats for many creatures that live out most of their lives elsewhere. They function as nurseries for marine animals that inhabit offshore areas as adults. Young shrimp, redfish, speckled trout, menhaden, and flounder grow into adults in the saltmarsh. Striped bass may rest and acclimate there on the way to upstream spawning grounds, as do many of their juveniles on the way to the ocean. When the marsh is covered with water at hightide, fish and shrimp swim in looking for food. The movement of the tides transports eggs, larvae, and young animals from bays to salt marshes.

Augmenting the high productivity of the saltmarshes is a special condition called the "energy subsidy of the tides." Some animal species, instead of foraging for their food, are fed by the tides' ebb and flow. Filter-feeders, such as clams, oysters, and barnacles, siphon food from the water as every tide brings in a rich supply of detritus. These marsh organisms expend less energy to find food and thus have more energy available for growth and reproduction.

Conclusions

Because the wetlands are vital to wildlife and to human life, we should be prudent in our use and conservation of these valuable resources. These areas are blessed with an abundant beauty. Citizens can push for legislation to further protect the wetlands with laws to limit the creation of new canals and waterways. The best way to help curtail our rapid loss of marshlands is to divert the nutrient-rich rivers back into our marshes. Projects to do this are currently underway. Some existing canals can be closed and filled. Harsh penalties can be assessed for the illegal dumping of pollutants into waterways or for other actions that result in wetland destruction. Legislative bodies can encourage new technologies through economic incentives. These and other measures are necessary so that we may conserve our remaining wetlands.

GLOSSARY

Carnivore - A meat eater.

Consumer - Organisms that are not capable of producing their own food. They are dependent upon getting their energy from eating producers or other consumers.

Community - All the plants and animals in a particular ecosystem that are bound together by food chains and other interrelationships.

Detritivore - An organism that feeds on dead, decaying organisms.

Decomposer - Bacteria and fungi that convert dead organisms into organic materials.

Ecosystem - A natural unit that includes living and nonliving parts interacting to produce a stable system in which the exchange of materials between living and nonliving parts follows paths. All the living things and their environment in an area of any size linked together by energy and nutrient flow.

Energy - Ability to do work and cause changes.

Energy Flow - The flow of energy through an ecosystem.

Energy Pyramid - A diagram that illustrates the flow of energy through the trophic levels.

Food Chain - Transfer of food energy from plants through a series of animals.

Food Web - A combination of many food chains.

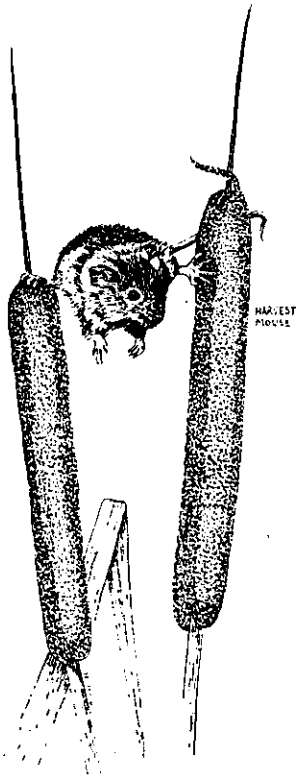
Herbivore - A plant eater.

Interdependence - The interrelationships of wildlife with one another and with the various elements of their environment.

Life Cycle - The developmental path an organism goes through from birth to adult.

Marsh - An environment where terrestrial and aquatic habitats overlap.

Omnivore - An animal that eats both plants and animals.



Photosynthesis - Process of plants by which sugars and carbohydrates are made from water and carbon dioxide using sunlight as an energy source.

Predator - An animal that kills and eats other animals.

Prey - Animals that are killed and eaten by other animals.

Primary Consumers- Animals that eat plants.

Primary Producers - Organisms that are able to manufacture food from simple organic substances.

Secondary Consumers - Animals that eat primary consumers.

Tertiary Consumers - Animals that eat secondary consumers.

Trophic level - Organisms that play a similar role in an ecosystem.

Marshes Everywhere

PURPOSE

The **Freshwater Marsh and Saltmarsh Poster** provides an opportunity for students to observe and identify the ecological components of any marsh. Marshes are a vital component of the life cycle for many species. This assignment can be done individually but we recommend that two or three students be assigned to a group for this activity.

PROCESS OBJECTIVES

Students will be able to improve their skills in observing, inferring, classifying, and recognizing various species by:

1. Identifying common inhabitants of both freshwater and saltwater marshes.
2. Illustrating the various trophic levels of a food chain.
3. Combining food chains to create a food web.
4. Comparing ecological relationships of varying species.
5. Illustrating how an economically important species such as shrimp fits into the ecosystem.
6. Discussing the flow of energy and matter through an ecosystem.

Concepts

Ecosystem, marsh, food web, community, energy production, energy flow, interrelationships, interdependence, primary producer, primary consumer, secondary consumer, tertiary consumer, decomposers, herbivore, carnivore, omnivore, life cycle, photosynthesis.

Curriculum Guide Reference

Life Science Curriculum Guide (1984): Bulletin 1614, obj. 13, 14a, 14b, 15, 26b, 31, 38, 40, 81, 82, 84c, 84e, 85,

METHOD

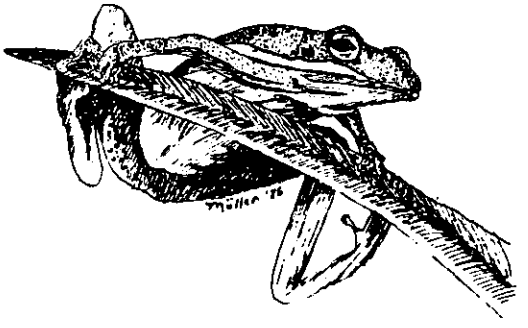
This activity is a cooperative learning exercise. The teacher can have a work station for groups of students to look at the **Freshwater Marsh/Saltmarsh Poster** or have the entire class look at the poster. The class size will determine the teacher's choice of arrangement for the exercise.

The poster and following questions will help direct the students attention to the complexity of life in wetlands. The students will be (a) identifying consumer types such as herbivores, carnivores, and omnivores, (b) exploring simple predator/prey relationships, and (c) constructing food chains as well as food webs using typical marsh organisms found in the poster.

The teacher should teach the background information (especially the **General Marsh Ecology** section) if the students are not familiar with the following concepts: predator, prey, herbivores, omnivores, carnivores, food chain, food web, trophic level, energy flow, energy pyramid, and decomposers.

MATERIALS

A Freshwater Marsh/Saltwater Marsh Poster



PROCEDURE

Follow the directions for both the freshwater marsh and the saltwater marsh sides of the poster.

1. List four predators and their prey.
2. Each student should create a simple food chain from the marsh scene with at least four trophic levels. You can include man in your food chain.
3. Identify all the different trophic levels in the food chain.

4. Identify which organisms are herbivores, omnivores, and carnivores in your food chain.
5. What role does the sun play in the food chain?
6. Draw an energy pyramid for your food chain.
7. Sketch a food chain, with man at the fourth trophic level, and another chain with man at the fourth trophic level. Use a pumpkinseed at the third trophic level in your freshwater marsh food chain. Use the flounder at the second level in your food chain for the saltmarsh.
8. With all the food chains each person in the group created, make a food web by connecting all the plants and animals you can from the food chains. Make sure you add the decomposers.
9. Which of the organisms may contribute to freshwater marsh loss? Can you think of any animals not shown in the poster that contribute to marsh loss in Louisiana? Explain.
10. How many reptiles are in the poster?
11. How many amphibians are in the poster?
12. Why are amphibians rare in saltmarshes when they are numerous in freshwater marshes?
13. How many different crustaceans can you locate? Explain what benefit there is to having a shell in a saltwater marsh?
14. Which associated species might be affected by the loss of mosquitos in a freshwater marsh? Which associated species might be affected by the loss of shrimp in the saltmarsh?
15. What would be the effect of the loss of producers?
16. How can over-harvesting of any of the species in the poster affect the food web? What would happen to the energy flow if certain species became extinct?

EVALUATION

Have each student draw a food web using as many of the organisms in the following list as he or she can connect. Have the students justify their connections.

a. crab
b. small bass
c. shrimp
d. copepods
e. large perch
f. crayfish
g. clams
h. raccoon
i. mosquito
j. man
k. redwinged blackbird
l. frog
m. heron
n. hawk
o. muskrat
p. dragonfly
q. deer fawn
r. alligator
s. crab
t. muskrat mound

Teacher's Answers to the Evaluation Questions

Freshwater Marsh

1. Student answers will vary.
   Mink - Duck
   Pickerel frog - damselfly
   Mosquitofish - mosquito larvae
   Freshwater mussel - scud
2. Student answers will vary.
   Duckweed—mallard—mink—man
3. A food chain can include a primary producer, a primary consumer, a secondary consumer, and a tertiary consumer. Sometimes a student will find a quarternary consumer.
4. Student answers will vary.
   Producers, herbivore, carnivore, and omnivore
5. The sun provides the needed energy for plants and animals to live.
6. Energy pyramids will vary depending on the types of food chains drawn.
7. Student answers will vary.
   Duckweed—pumpkinseed—man
   Duckweed—mosquito larvae —pumkinseed—man
8. Student answers will vary.
9. Muskrats contribute to freshwater marsh loss. In Louisiana, the nutria also contributes to marsh loss.
10. One.
11. Three
12. The salt in saltwater can dehydrate amphibians and their eggs.
13. Three.

14. Mosquito larvae are food for many fish such as the mosquitofish. When they become adults, mosquitos are food for many species of birds.

15. If the marsh lost all the producers, the food web would collapse. All animals would die.

16. While many species have alternative food sources, some species are specialized to one. Thus, these specialized species may die from an insufficient amount of energy and nutrients.

Saltmarsh

1. Student answers will vary.
   Laughing gull - minnows
   Redwinged blackbird - grasshopper
   Winter flounder - shrimp
   Barnacles - amphipods

2. Student answers will vary.
   Saltmarsh cordgrass detritus—shrimp—flounder—man

3. Student answers will vary.
   Producer—detritivore—carnivore—omnivore

4. A food chain can include a primary producer, a primary consumer, a secondary consumer, and a tertiary consumer. Sometimes a student will find a quarternary consumer.

5. The sun provides the needed energy for plants and animals to live.

6. Energy pyramids will vary depending on the types of food chains drawn.

7. Student answers will vary.
   This can't be done because flounders are carnivores and cannot eat plant material. Therefore, flounders cannot occupy the second trophic level reserved for primary consumers (such as herbivores or detritivores).

8. Student answers will vary.

9. Not applicable.

10. None.

11. None.

12. The salt in saltwater can dehydrate amphibians and their eggs.

13. Seven. A shell can protect the animal from predation and prevent excessive drying out during low tides.

14. Many fish, crab, and bird species depend on the shrimp as a food source.

15. While many species have alternative food sources, some species are specialized to one. Thus, these specialized species may die from an insufficient amount of energy and nutrients.

16. If the marsh lost all the producers, the food web would collapse. All animals would die.

EXTENSIONS

1. Students can be assigned to write a report on individual organisms, discussing their habitat, feeding habits, and any special adaptations.

2. Have students research predator-prey relationships. Is man a predator or a prey? Can the students think of any situation where man is a predator? What about a prey? Talk about the role of diseases in a food web.

3. Have students create their own marsh scenes using the cut-and-paste method.

4. Research the economic aspects of various species indigenous to Louisiana. Remember to find out how the over-harvesting or under-harvesting of a species would affect any ecosystem.

5. Discuss the importance of the role of the detritivores in the saltmarsh.

Fish For A Food Chain

PURPOSE

This game provides a fun method for developing a thorough understanding of food chains. In addition, students will have an opportunity to develop some food chains that are common in Louisiana salt- and freshwater marshes.

PROCESS OBJECTIVES

Students will be able to develop and improve their skills in observing, inferring, classifying, recognizing number relations, communicating, predicting, and decision-making by:

1. Identifying common organisms in a Louisiana freshwater marsh and saltmarsh.
2. Illustrating the various trophic levels of a food chain.
3. Combining trophic levels to form a food chain.
4. Discussing the flow of matter through an ecosystem.
5. Consolidating the food chains into food webs.

Concepts

Ecosystem, marsh, food chain, community, interrelationships, interdependence, trophic level, primary producer, primary consumer, secondary consumer, tertiary consumer, herbivore, carnivore, omnivore.

Curriculum Guide Reference

Life Science Curriculum Guide (1984): Bulletin 1614, obj. 13, 14a, 14b, 15, 26b, 31, 38, 40, 81, 82, 84c, 84e, 85,

METHOD

This activity is a card game that helps students learn to identify Louisiana food chains. Groups of three or four students will be able to develop believable food chains by drawing and discarding cards from a deck of 52 playing cards. Each playing card represents one trophic level within a food chain.

The first person with a believable hand consisting of a sun card, a primary producer card, a primary consumer card, a secondary consumer card, and a tertiary consumer card wins. An example of a believable freshwater marsh food chain is a sun card, a pickerelweed card, a mosquito card, a frog card, and a blue heron card. An unbelievable food chain may consist of a sun card, a pickerelweed card, a raccoon card, a frog card, and a blue heron card. This food chain is unbelievable because a frog would not eat a raccoon under any circumstances. While this is a clearcut example, it may be necessary to research a particular animal's food habits if a discrepancy arises.

At the teacher's discretion, the winner may be required to identify the types of consumers within the trophic levels in his food chain before an official winner can be named. For example, a primary consumer might be a herbivore or an omnivore. Clues are provided on the playing cards.

There are two different decks, one with plants and animals typical of a Louisiana saltmarsh, the other with plants and animals typical of a Louisiana freshwater marsh. Many of the plants and animals can be found within their appropriate habitats on the **Freshwater Marsh/Saltmarsh Poster.**

MATERIALS

There are two different decks of cards. One is for freshwater marshes, the other is for saltmarshes. In each deck, masters are provided to make 52 cards necessary for each group of three or four players. All the plant and animal sheets must be copied twice to create the deck of 52 cards. To avoid confusion, duplicate the two different decks of cards on differently colored paper. This will simplify separating the cards in case they get mixed together.

Make sure each deck consists of four suns, 16 producers, 14 primary consumers, 14 secondary consumers, and four tertiary level consumers. Cards can be duplicated, glued onto rectangle-shaped heavy stock paper, and laminated from the masters provided at the back of this activity.

PROCEDURE

1. The teacher reproduces the playing cards provided and glues them to rectangle-shaped heavy stock paper. Laminate them if possible. Make sure each group has all 52 playing cards containing the right proportion of trophic levels, for either freshwater marshes or saltmarshes.
2. A student deals out five cards to each player and himself and places the rest of the cards face down in the center.
3. The dealer then takes the top card from the deck. He must discard either the card picked up from the top of the deck or one from his hand and place it face up in the discard pile.
4. The next player can take the top card on the discard pile or a card from the top of the deck. He checks his hand and must discard one card.
5. The game continues until one person gets a hand consisting of five cards that would constitute a believable food chain. If a student declares a winning hand and the food chain is unbelievable, that student must wait out two turns before he can draw a card.
6. At the end of the game, have the students connect their food chains into a food web.

EVALUATION

1. Describe where man fits into a food web.
2. Have the students diagram a food web common to a Louisiana freshwater marsh and a saltmarsh.
3. Discuss the impact on a food web if man introduced a species that had no predators into an ecosystem.
4. What is the impact on a food chain if man over-harvests one species? What about in a food web?

Teacher's Answers to the Evaluation Questions

1. Humans are an intricate part of most wetland food webs. In a freshwater marsh, we harvest ducks, geese, rabbits, fish, mussels, fur-bearing animals, and turtles. In a saltmarsh, we harvest seafood such as crabs, oysters, shrimp, and mussels. Other species man harvests include waterfowl, fur-bearing animals, and fish such as flounder, redfish, and speckled trout.
2. Diagrams will vary from group to group.
3. Most introduced species do not survive, though some do. These species often have no predators and they quickly populate a new area. Native species can be crowded-out by the introduced species.
4. If man over-harvests one species in a food chain, then the higher trophic (or higher consumer) levels have no food. Without any food source, the transfer of energy and nutrients stops and those organisms die. However most animals are not dependent on a single food source. While over-harvesting of a species will put a strain on the food web, most species will switch to an alternative food source. However, if a species is specialized to feed on that one food source, then a part of the food web might be lost because of lack of food.

EXTENSIONS

1. Students can be assigned to write a one-page report on the prey of certain Louisiana predators.
2. Have the students connect common Louisiana food chains into a food web for a freshwater and saltwater marsh. Keep the growing food webs on a piece of poster board and add to them during the year as you talk about new Louisiana plants and animals.
3. Have students describe the predator-prey relationships within the food chains. What happens when a predator or prey is increased or decreased?
4. Have students research the extermination of some of Louisiana's top predators. Examples are the red wolf and the panther. Could we reintroduce these predators today? What happens to the balance of the food web with the loss of a species?
4. Give a real-life example of what happens to a food web when man upsets the balance by under-harvesting a species, over-harvesting a species, or introducing an exotic species.

Energy — Is There Enough To Go Around?

PURPOSE

Energy—Is There Enough To Go Around? is an activity aimed at developing a thorough understanding of energy flow and loss and the impact of energy movement in a food web.

PROCESS OBJECTIVES

Students will be able to develop or improve their skills in observing, inferring, classifying, recognizing number relations, recognizing space/time relationships, communicating, predicting, and decision-making by:

1. Illustrating the various trophic levels of a food chain.
2. Comparing ecological relationships of varying species.
3. Determining the extent of energy loss among organisms within a food chain.
4. Providing an example of energy loss among organisms within a food chain.
5. Comparing the stability of a food web with the stability of a food chain.
6. Discussing the impact of altering the balance of a food chain or a food web.

Concepts

Ecosystem, marsh, food chain, energy production, energy flow, interrelationships, interdependence, trophic level, primary producer, primary consumer, secondary consumer, tertiary consumer, photosynthesis

Curriculum Guide Reference

Life Science Curriculum Guide (1984): Bulletin 1614, obj. 13, 14a, 14b, 15, 26b, 31, 38, 40, 81, 82, 84c, 84e, 85,

METHOD

Using jellybean models, students will mathematically determine the loss of energy through a simplified food chain.

MATERIALS

One hundred jellybeans for the first demonstration that involves four students (10 more jellybeans for any additional demonstrations), four large paper cups, a knife

PROCEDURE

1. Hold up a jar of 100 jellybeans. Explain to the students that the 100 jellybeans represent 100 units of energy from the sun that is photysynthesized by plants. Tell your students to imagine that each jellybean (energy unit) is energy available for plants and animals to live and reproduce. Have them visualize that 90 percent (or 900 jellybeans) of the sun's energy that reaches the earth is never utilized by plants. For a more detailed account refer to **General Marsh Ecology** in the unit's background information.
2. Four students each receive a paper cup and decide who will represent phytoplankton (single-celled plants), zooplankton (single-celled animals), a minnow, and a flounder.
3. Count 100 jellybeans and put them in the phytoplankton's cup. That is the amount of energy the phytoplankton photosynthesized from 100 units of energy from sunlight reaching the earth.
4. The phytoplankton may consume 90 of the 100 jellybeans photosynthesized. (If the teacher desires, the students do not have to eat the jellybeans.) This represents the energy burned up in tissue maintenance (plants release carbon dioxide as a waste product into the air during respiration), growth, and reproduction. The 10 jellybeans left over represent the energy that is stored in the plant's tissue from the original 100 units of the sun's energy that the phytoplankton photosynthesized. That energy is available for any consumer.
5. The zooplankton eats the phytoplankton and receives the 10 units of energy (10 jelly beans). The zooplankton may consume nine units of energy. As in plants, the nine units of energy (nine jellybeans) are burned up in

growth, tissue maintenance (animals release carbon dioxides as a waste product into the air during respiration), or reproduction. The remaining one energy unit is stored as fat or in body tissue. This is the energy available for any higher level consumer.

6. The minnow eats the zooplankton and receives the one jellybean. With the knife, divide it into 10 parts. The minnow may consume nine of those parts. The other tiny part of jellybean (one-tenth) left is the amount of energy available for any higher level consumer.
7. The flounder eats the minnow and gets the one-tenth of a jellybean. The model started out with 100 units of sun and the flounder received one-tenth of an energy unit.

EVALUATION

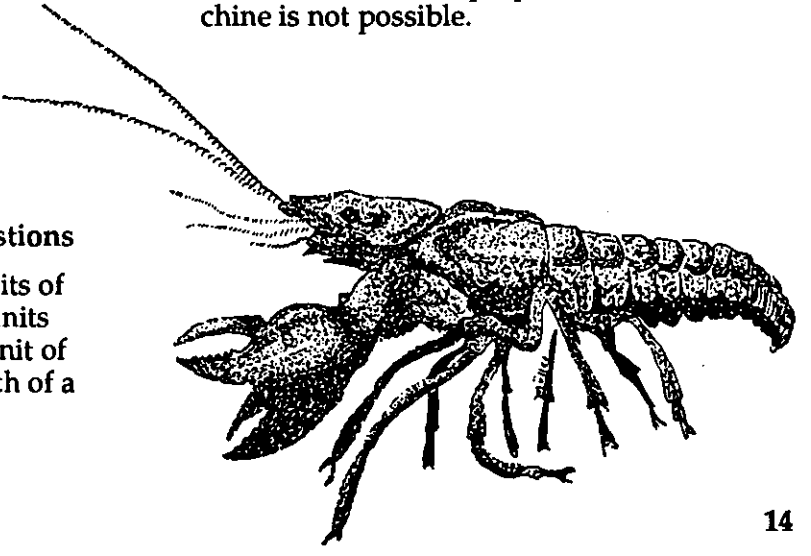
1. How many of the 100 energy units that the plants photosynthesized did each organism in the food chain receive?
2. What happened to the remainder of the energy from the level before?
3. How much of the original 100 units of energy that the plants photosynthesized from the sun would reach man if he caught and ate the flounder?
4. How much more energy would the minnow receive if it directly ate the phytoplankton?
5. If a human wanted to be energy efficient what part of the food chain should he eat?
6. What happens in a food chain if the phytoplankton dies?
7. What happens in a food chain if the flounder dies?
8. Why do biologists show energy loss in the shape of a pyramid?
9. Why is "energy loss" important to know about if we want to help feed the world's human ever-growing human population?

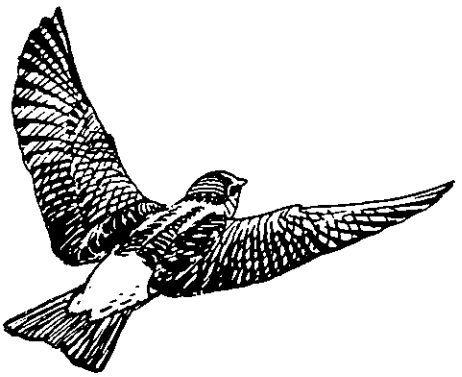
Teacher's Answers to the Evaluation Questions

1. The phytoplankton received the 100 units of energy. The zooplankton received 10 units of energy. The minnow received one unit of energy. The flounder received one-tenth of a unit of energy.
2. The energy was used in tissue maintenance, growth, and reproduction.
3. The man would receive one-hundredth of a unit of energy.
4. The minnow would receive 10 times more energy.
5. Humans should eat the phytoplankton.
6. All the organisms along the food chain will die eventually if the phytoplankton dies.
7. If the flounder dies, the organisms below on the food chain will still survive.
8. Because energy at each trophic level is lost through tissue maintenance, growth, and reproduction, there is less and less energy available for the next level of the food chain.
9. Even if all humans became vegetarians (herbivores), the world could still only support as many people as there was food. There is a limit to the number of people that can survive on this planet.

EXTENSIONS

1. What happens to the flow of energy to speckled trout if man overharvests the shrimp population?
2. What happens to the flow of energy if man introduces an exotic plant such as water hyacinth into the food web? Water hyacinths are not eaten by herbivores.
3. Discuss man's need for energy to do work. What kinds of energy are humans running out of today? Talk about the advantages and disadvantages of solar energy to run a city.
4. In the past, scientists were trying to build a perpetual motion machine. Applying what you have learned about the flow of energy, discuss the reason a perpetual motion machine is not possible.





Swallow

Swallows eat mosquitos.

Alligator

Alligators eat raccoons, pickerel, and small snapping turtles.

Sun

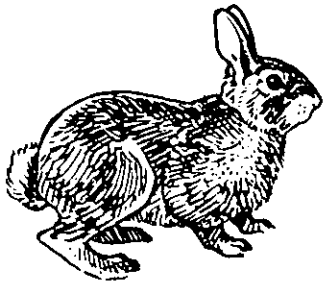
The beginning of the food chain.

Sun

The beginning of the food chain.

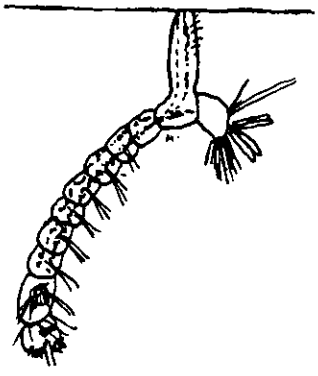
Mussel

Mussels eat phytoplankton and detritus (dead plant material).



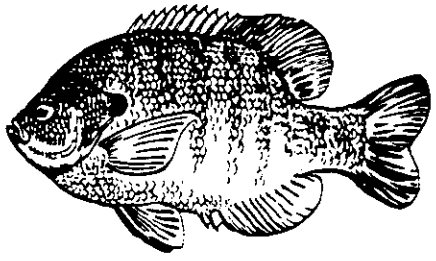
Rabbit

Rabbits eat live plant material.



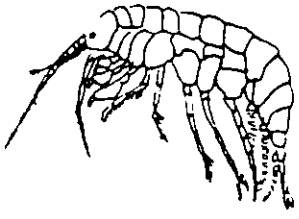
Mosquito larvae

Mosquito larvae eat phytoplankton and detritus (dead plant material).



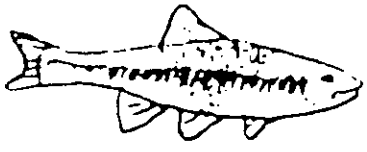
Blue Gill

Blue gills eat insect larvae.



Scud

Scuds eat copepods and ostracods.

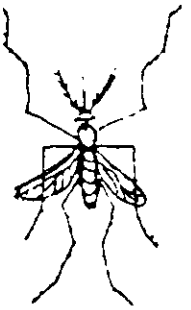


Mosquitofish

Mosquitofish eat mosquito larvae and scuds.

Raccoon

Raccoons eat small painted turtles, mussels, and baby rabbits.

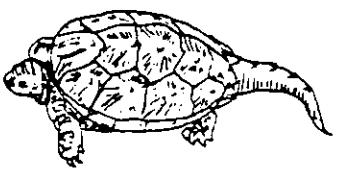


Mosquito

Female mosquitos feed on the blood of rabbits, muskrats, and raccoons.

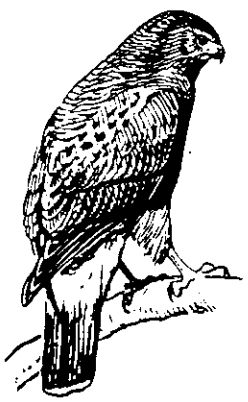
Giant Water Bug

Giant water bugs eat small minnows.



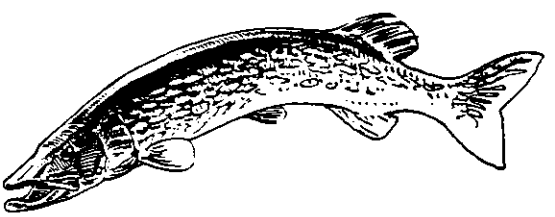
Snapping Turtle

Snapping turtles eat small minnows, baby muskrats, and small painted turtles.



Marsh Hawk

Marsh hawks eat muskrats, rabbits, and raccoons.



Pickerel

Pickerel eat giant water bugs, sac-au-lait, and mosquitofish.

Cattail

Cattails roots are eaten by muskrats and nutrias.

Millet

Millet seeds are choice duck and geese food.

Bulltongue

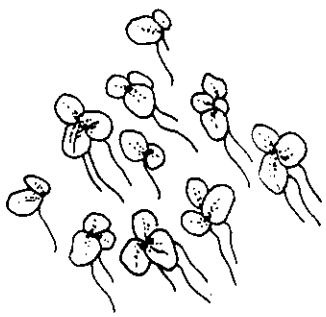
Bulltongue contributes to the detrital food chain. It is eaten by zooplankton, insect larvae, and mussels.

Willow

The leaves are eaten by deer.

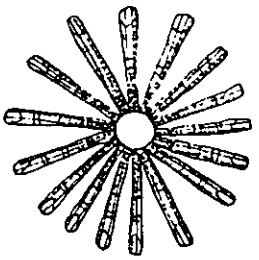
Pickerelweed

Pickerelweed roots are eaten by nutrias and muskrats. The seeds are eaten by ducks and geese.



Duckweed

Duckweed is eaten by ducks.

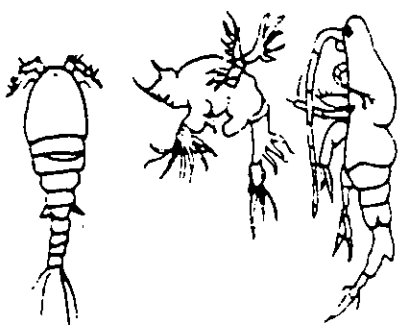


Algae

Algae are eaten by zooplankton, insect larvae, and mussels.

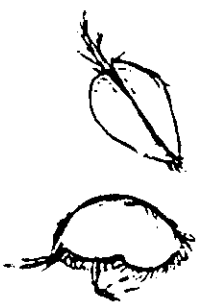
Phytoplankton

Phytoplankton is eaten by zooplankton, insect larvae, and mussels.



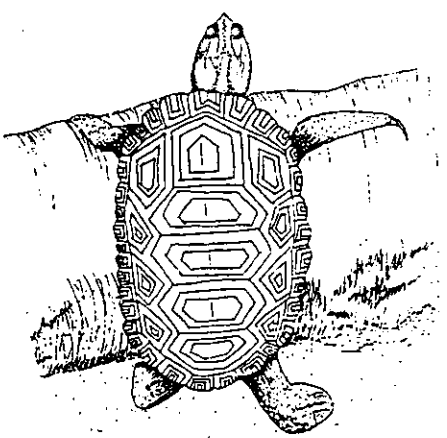
Copepod

Copepods eat algae and phytoplankton.



Ostracod

Ostracods eat algae and phytoplankton.



Painted turtle

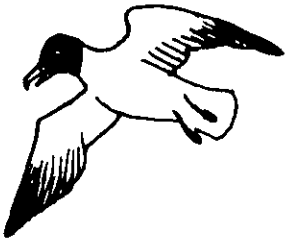
Painted turtles eat plant material.

Muskrat

Muskrats eat cattails and pickerel weed.

Sea Otter

Sea otters eat any type of fish, crabs, mussels, and oysters.



Seagull

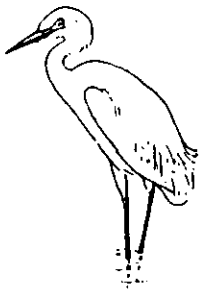
Seagulls eat crabs, menhaden, killifish, and silversides.

Sun

The beginning of the food chain.

Sun

The beginning of the food chain.



Snowy egret

Snowy egrets eat any small fish.

Raccoon

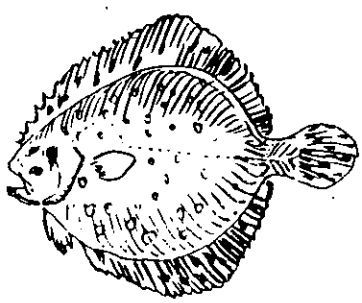
Raccoons can eat mussels, grasshoppers, and blue crabs.

Silverside

Silversides eat zooplankton.

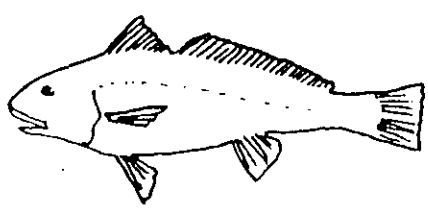
Ghost Crab

Ghost crabs eat mussels and oysters.



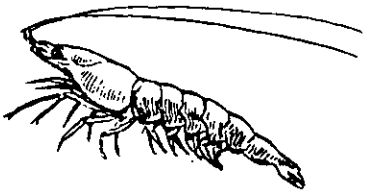
Flounder

Flounders eat silversides, menhaden, and killifish.



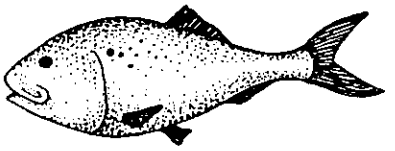
Speckled Trout

Speckled trout eat silversides, menhaden, and killifish.



Shrimp

Shrimp eat detritus (dead plant material).



Menhaden

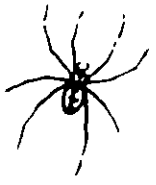
Menhaden eat phytoplankton and algae.

Mussels

Mussels eat phytoplankton, algae, and detritus (dead plant material).

Brown Pelican

Brown pelicans eat fish such as shad and menhaden.



Predatory Spider

Predatory spiders eat grashoppers.

Oyster Drill

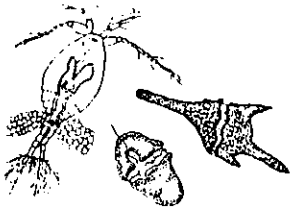
Oyster drills eat oysters.

Needlegrass

Needlegrass is part of the detrital food web. It is eaten by sea cucumbers, periwinkles, mussels, clams, and shrimp.

Saltmarsh Bulrush

Saltmarsh bulrush is part of the detrital food web. It is eaten by menhaden, shad, mullet, and clams.

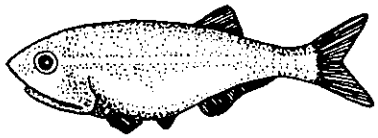


Zooplankton

Zooplankton eat phytoplankton.

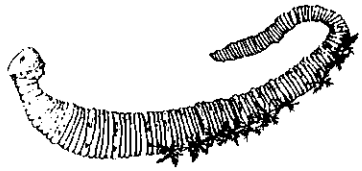
Grasshopper

Grasshoppers eat live plant material.



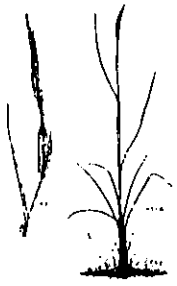
Shad

Shad eat phytoplankton and algae.



Polychaete

Polychaetes eat detritus (dead plant material).

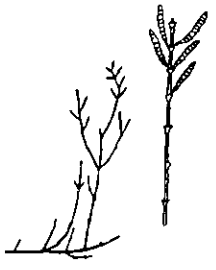


Smooth Cordgrass

Smooth cordgrass is a part of the detrital food chain in a saltmarsh. It is eaten by blue crabs, shrimp, mole crabs, coquinas, polychaetes, and snails.

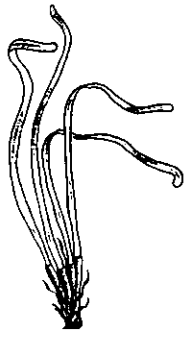
Wiregrass

Wiregrass is part of the detrital food web. It is eaten by menhaden, mullet, and shrimp.



Glasswort

Glasswort is part of the detrital food chain. It is eaten by oysters, crabs, coquinas, mussels, polychaetes, snails, and clams.

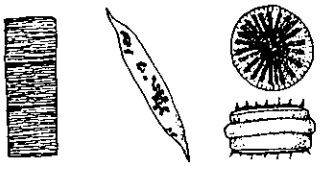


Seagrass

Seagrass is part of the detrital food web. It is eaten by periwinkles, sand dollars, and zooplankton.

Salt Grass

Salt grass is part of the detrital food chain in a saltmarsh. It is eaten by sand dollars, snails, sea cucumbers, and mussels.



Phytoplankton

Single-celled plants that live in the water. They are eaten by menhaden, mussels, and barnacles.

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A CLOSER LOOK

NATURE JOURNAL

By Lyle M. Soniat, Ph.D.
Louisiana Sea Grant College Program
Jean May-Brett
Dominican High School, New Orleans

While recently visiting family and sharing a wonderful meal, we decided to walk a bit to make room for the dessert. My young daughter, feeling a bit lazy said, "Aw, walks are boring!" Like most kids, she needed a little motivation to pry her away from cartoons. Quickly I said, "We're not just going walking—we're going on a nature study. You know—looking for seeds and bugs and birds and critters. Let's see what we can find."

She needed little added motivation, now that a "boring walk" was out and a "nature study" was in. As a parent, I am challenged to find ways to continually direct my child's energy and create opportunities for her to learn outside of the classroom. Observing the living things around us can be as exciting as a family vacation, providing us with a continuous experience in the wonders of the natural world.

Once the senses are alerted, a neighborhood walk becomes a nature study. Your eyes, ears, nose, and fingertips are aware of your surroundings. On a walk, the range of assorted subjects and sounds provide a sensory overload. You may feel pleasure, but you don't feel and see all of the details. When you take the time to note each sensory stimulation, the beautiful emerges where it was overlooked or not expected. A close look at a school playground may reveal a spot where the dandelion has broken through the asphalt or a bird is nesting in an overhang.

After several nature walks, I noticed that my daughter's interest started to lag. We had turned over the same leaves, seen most of the bugs and birds, and solved some mysteries. We needed to take the nature walk to the next level. I explained that it might be fun to record some of our observations so that we might look at them later.

Once the senses are alerted, a neighborhood walk becomes a nature study.

By recording our observations in a special notebook or nature journal, we could repeat the experience for pleasure or learn additional things by noting trends or patterns. The effort to look again and record by drawing increases the level of observation. The size and color of an insect is clearer; details about spider webs or leaf patterns are enhanced. Observations over a period of time can also provide a look at the seasons and an appreciation of change as a constant.

Getting Started

There is no "right" time to begin keeping a journal. Start right now! Keeping a nature journal requires only the desire and some low tech materials—a pencil and a notebook. Buy a bound notebook with either ruled or blank paper. Or the notebook may be constructed using a plain folder and regular typing paper. A decorated cover makes the journal reflect the notebook's purpose.

While you are watching a bird feeder or weeding the lawn, the relationships within natural systems unfold.

Step outside the house or classroom to start the expedition. You don't have to be on a safari. Insects or birds will catch the eye everywhere. While you are watching a bird feeder or weeding the lawn, the relationships within natural systems unfold. A work trip to a family camp can become a new experience if it is turned into an afternoon of discovery. Visits to the zoo or a neighborhood park, even walks along a bayou, provide new experiences when people become actively engaged in observing the flora and fauna in their natural environments.

A large area like a playground or yard can first be mapped so that separate zones can be inspected and studied on subsequent excursions. An army of ants moving along the cracks in the sidewalk, a pair of doves sitting on the phone lines, and many other creatures that have been overlooked in life's rush to get from place to place, might become part of a survey. Begin by turning over a leaf or brick or looking closely at a lichen attached to a branch or twig. There is no wrong way or bad entry in a personal journal. It is yours.

There are some different recording techniques that may be used. You can write words about your observations, or illustrate them. A contour drawing requires that the item become the center of one's concentration. Looking at the object and imagining that one's eyes are the tip of the pencil can be the start of sketching. As the eyes travel around the specimen, slowly move the pencil accordingly. Some recommend that you should keep looking at the subject, never glancing away or peeking at how the sketch is turning out. An idea for drawing subjects that frequently move would be a gesture technique using quick strokes. Gesture sketching quickly records the position or movement that is observed. The pencil is used in a fast and free method that tries to capture the essence of what the subject is doing.

Whatever style is used, each entry should be identified. It would be appropriate to indicate the date, time of day, the place, and perhaps a quick weather description. Remember that a nature journal is not meant to be a diary. When various family members keep a journal, sharing entries provides an expanded way of learning. The use of a nature journal to improve perceptual skills is truly a lifelong engagement.

Extensions

The drawing or word description recorded in the journal can begin an extended learning experience. By comparing the record with field guides or published resource materials, a whole adventure unfolds. There are excellent resource materials available for all ages. Members of different generations can search together.

On that special family vacation, why buy postcards? Send something from your journal. Many of the early western artists embellished their letters with an illustration. In *Dances with Wolves*, Kevin Costner's character drew on the pages of his journal. How exciting it would be to receive a letter with a view of something that impressed the sender personally rather than a postcard printed by the thousands.

A quick verse or poem is another form of entry for a nature journal. Haiku is a Japanese three-line, non-rhyming poetry style. The poem has a first line of five syllables, the second line uses seven syllables, and the final line returns to five syllables. Outside with your notebook, compose a haiku to describe an animal, plant or the general setting. The poem conveys what you saw and felt.

There is no wrong way or bad entry in a personal journal. It is yours.

ACTIVITIES

Walter Anderson, a New Orleans native, spent many years sketching and painting the plants, animals and sights along the Gulf Coast. His style used a few simple motifs that everyone is familiar with. A simple suggestion is provided with each of the forms shown. Close your eyes and think of a view you remember or simply look at the objects around you and select items that could be drawn with each shape.

A circle	the moon	A zig-zag line	tree tops
A half-circle	a sunset	A spiral	the coil of a snail shell
Two half-circles	sand dunes	A straight line	the horizon
A wavy line	waves coming ashore		

Take a few moments to become familiar with the motifs by using them to sketch things around you. Select a few objects from your yard—a flower, a bird nest, or a tree may be examples.

FISHING TACKLE LOANER PROGRAM

SPORT FISHING
PROMOTION COUNCIL

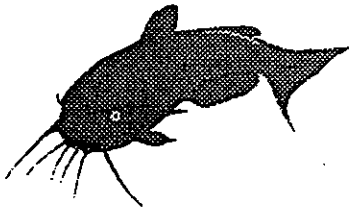
The marketing arm of the American Sportfishing Association

(703) 684-5856
fax (703) 684-6278
e-mail saoffice1@usa.pipeline.com

SPORTFISHING CREATES MEMORIES THAT LAST A LIFETIME

Ask an angler about sportfishing and the ensuing flood of fond lifetime memories will warm your heart. Introduce a friend to fishing and you will make a friend for life. Sportfishing is one of the few sporting activities that consistently evokes a unique emotional response from each participant. Each person has his or her own "fishing story" to tell.

Sportfishing is a wholesome, confidence building activity that offers adults and children constructive recreation away from life's daily pressures. For children, sportfishing builds self-esteem which deters negative peer influence, keeping children away from the violence and drugs that plague this nation's streets. In addition, sportfishing builds appreciation for protection of the environment and the conservation of natural resources. Those deriving pleasure from a resource will more likely protect it when it is threatened.



SPORT FISHING PROMOTION COUNCIL

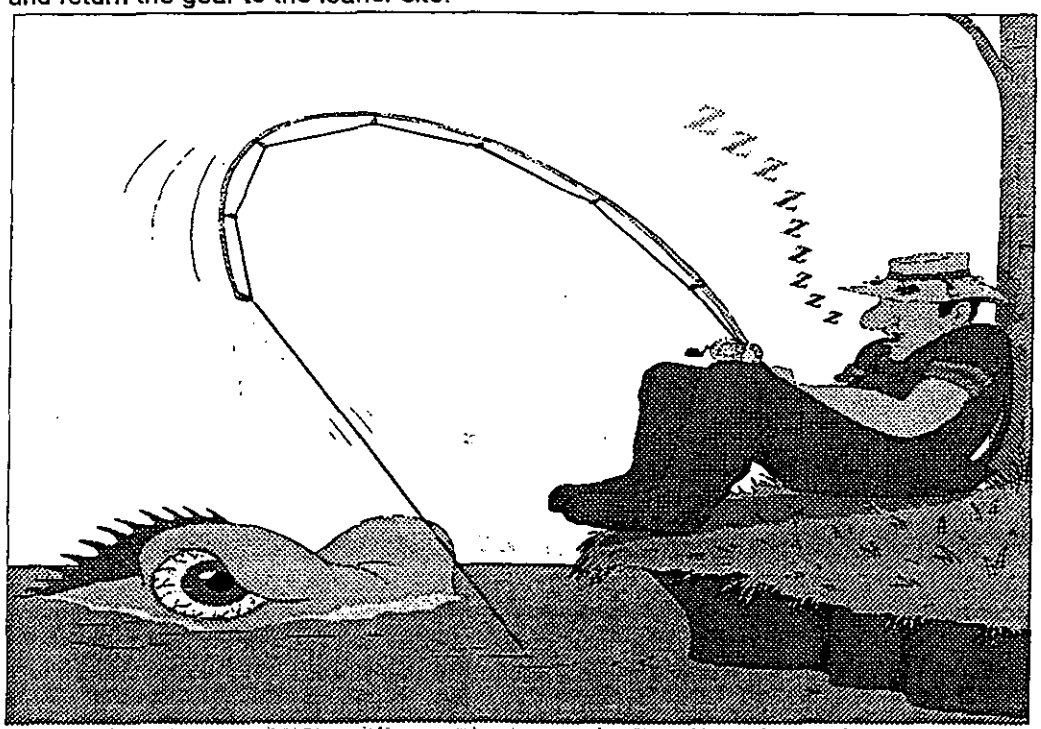
AMERICAN SPORTFISHING ASSOCIATION

WHAT IS THE FISHING TACKLE LOANER PROGRAM?

First time golfers can rent clubs; beginning bowlers are provided with bowling balls at the alley; baseballs, basketballs and footballs are provided in school, parks and recreation centers, and through other youth programs. Who is helping beginning anglers? The Sportfishing Promotion Council is!

The goal of the Sportfishing Promotion Council, the marketing arm of the American Sportfishing Association, is to increase the awareness of and participation in sportfishing - a goal that is being met with tremendous success through the Fishing Tackle Loaner Program (Loaner Program). Basically, the loaner program lends fishing equipment to people, especially children, through libraries, schools, and parks & recreation facilities.

The first time a person checks out fishing equipment from a loaner site, they receive a quality closed faced spin cast outfit, and a small tackle box generally filled with hooks, sinkers, bobbers and bait. The first time a person checks out and then returns the rod & reel, they keep the tackle box. This tackle box then serves as a reminder to go fishing again and enjoy the outdoors. This also allows people who either cannot afford to buy their own equipment or are just not ready to invest in the sport to have the opportunity to experience fishing and understand how wonderful fishing really is. Fishing gear is maintained by volunteers on a regular basis to make sure that everything is in top working condition. Volunteers make needed repairs to the rods & reels, and replenish line and tackle and return the gear to the loaner site.



PARTNERS

As with any successful program, more than one person or organization needs to be involved. The Fishing Tackle Loaner Program demonstrates the involvement of different organizations and helps facilitate long-lasting partnerships. The main partners involved with this program are:

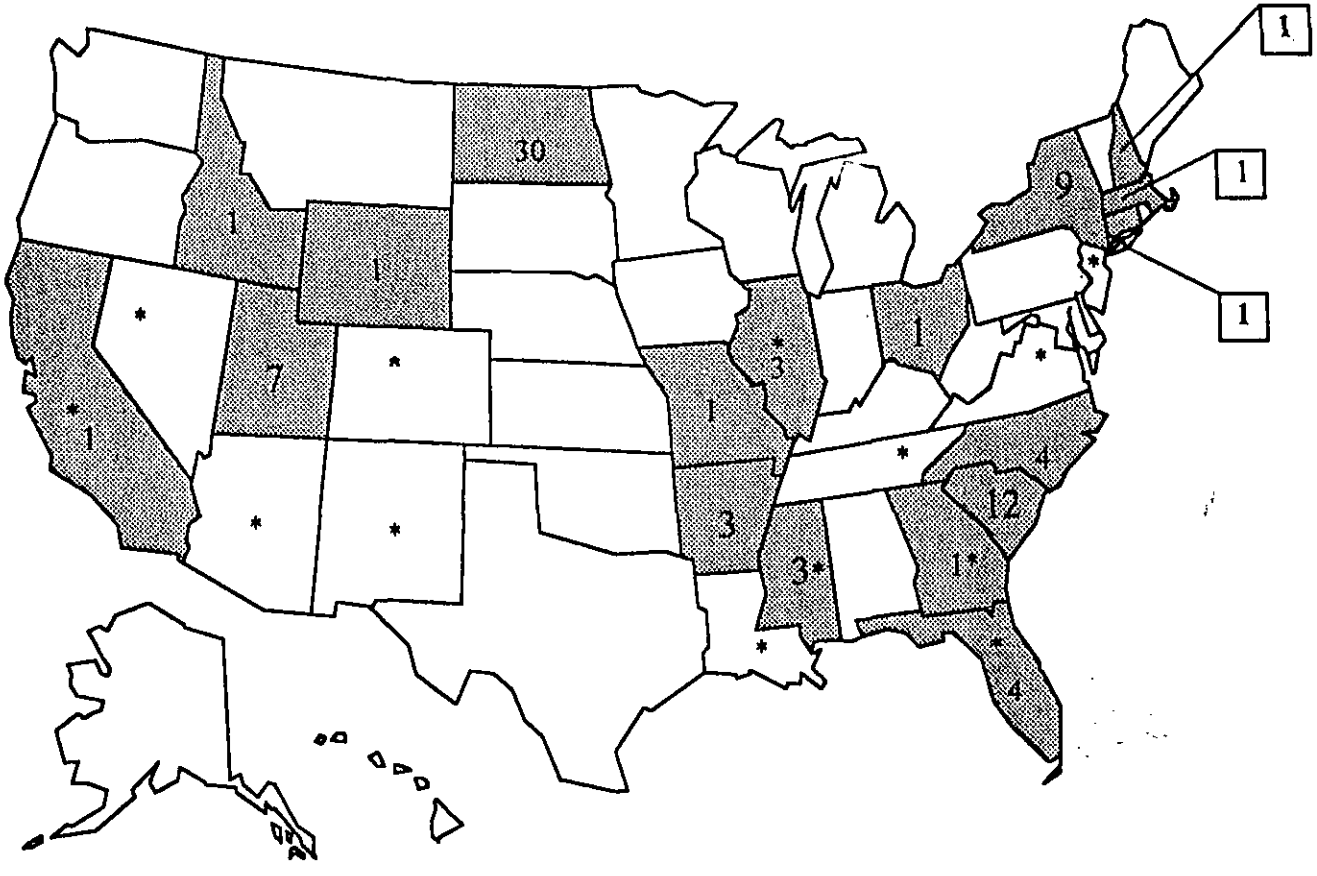
1. **State Fish and Game Agency** - Agency personnel support programs that encourage the wise use of natural resources. They can assist in conducting education seminars and fishing clinics at loaner sites. They may also help supply fishing access maps, "how-to" fishing information and publicity.

2. **Loaner Site** - Two potential, and so far most successful loaner sites have been with libraries and parks & recreation facilities. They both provide a place where equipment can be loaned out and have the ability to create a database of people borrowing the equipment. Also, many parks & recreation centers are located near a body of water, which is ideal for loaning equipment.

3. **Civic Organization** - These organizations are community minded and provide support to programs that appeal to youth. These organizations can help in maintaining the fishing gear and make sure it is in good working condition. Some groups who have been willing partners are the Rotary Clubs, Bass Clubs, Lions Clubs and Kiwanis Clubs.

4. **Local Retailer** - This partner is an integral part of a successful loaner program because of their relationship with tackle manufacturers, sales representatives, and the local media. Because of their expertise, they often help with the maintaining of the rods and reels.

STATUS OF THE FISHING TACKLE LOANER PROGRAM



*** = (under development)**

Illinois (4 under development)
New Mexico (under development)
Georgia (3 under development)
Mississippi (2 under development)
Florida (3 under development)
California (5 under development)
Arizona (under development)
Colorado (6 under development)
Louisiana (under development)
Tennessee (under development)
Virginia (under development)
New Jersey (under development)
Nevada (1 under development)

(as of Apirl 24, 1996)

FISHING TACKLE LOANER PROGRAM CONTACTS

The following states are currently participating with the loaner program - call directly for more information.

ARKANSAS, Game & Fish
Jeryl Jones: 501-223-6385

OHIO, Division of Wildlife
Jim Wentz: 614-265-6544

MISSISSIPPI, Division of Wildlife, Fisheries, & Parks
Ron Garavelli: 601-.364-2200

ILLINOIS, Department of Conservation
Gregg Tichacek: 217-782-6424

FLORIDA, Game & Fish Commission
Chris Michael: 407-317-7329

COLORADO, Division of Wildlife
Scott Gilmore: 303-291-7512

NORTH CAROLINA, Wildlife Resource Commission
Bob Curry: 919-733-3633

CALIFORNIA, Department of Fish & Game
Ethan Rotman: 415-892-0460

UTAH, Division of Wildlife
Phil Douglas: 801-538-4717

NORTH DAKOTA, Game & Fish Department
Dave Jensen: 701-328-6322

SOUTH CAROLINA, Department of Natural Resources
Val Nash: 803-734-3943

WYOMING, Game & Fish Commission
Brian Olsen: 307-473-3409

GEORGIA, Department of Natural Resources
Chris Martin: 770-918-6418

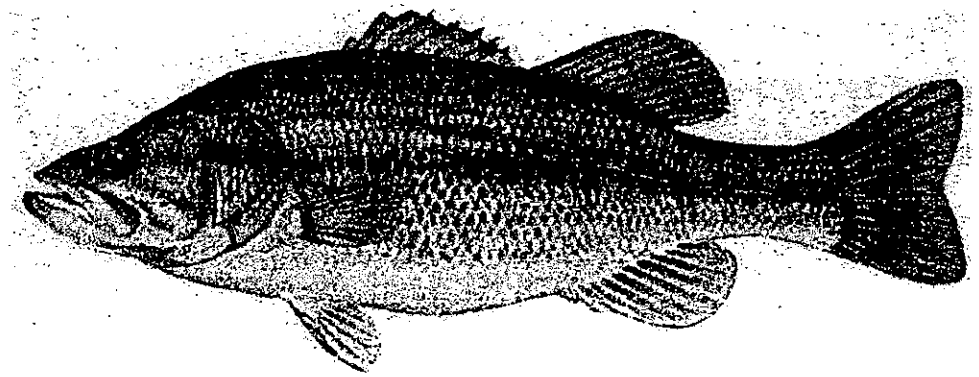
For general program information, please write to:

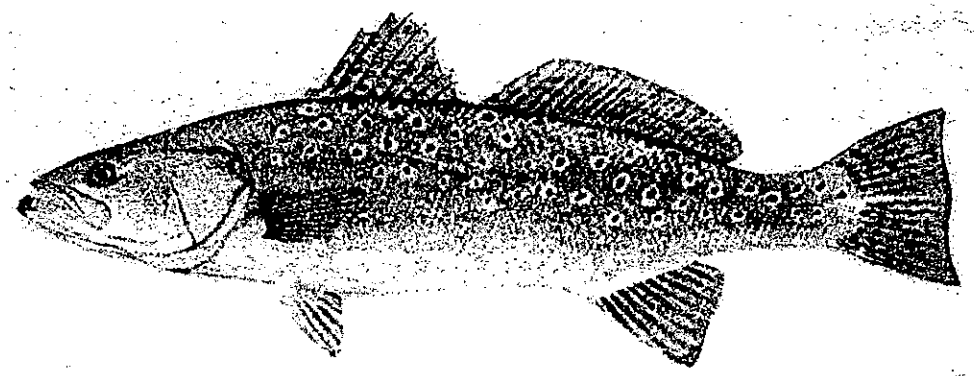
SPORTFISHING PROMOTION COUNCIL
1033 N. Fairfax Street, Suite 200
Alexandria, VA 22314
ATTN: Steve Gottshall

This public document was published at a total cost of $12,000. Fifty thousand copies of this document were published in this printing at a cost of $12,000. This document was published by Prison Enterprises, P.O. Box 44314, Baton Rouge, LA 70804, to provide information on sportfish identification in Louisiana. This material was printed in accordance with the standards for printing by state agencies established pursuant to R.S. 43:31.

IDENTIFICATION GUIDE TO THE COMMON SPORT FISH OF

LOUISIANA



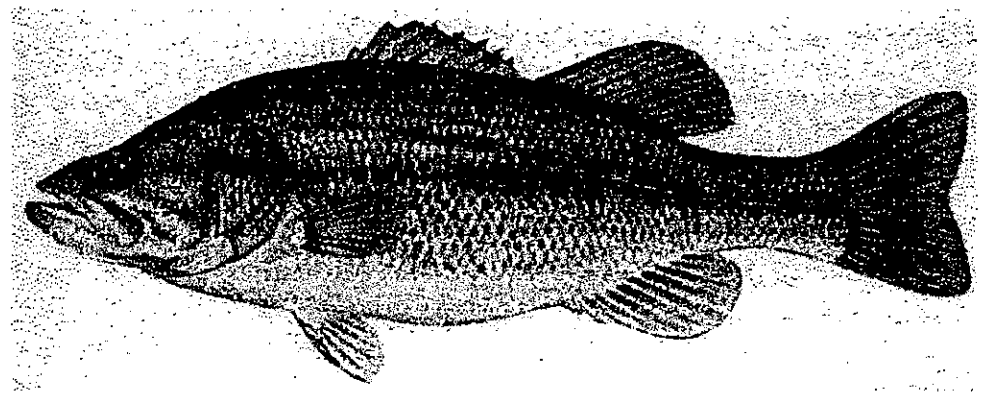


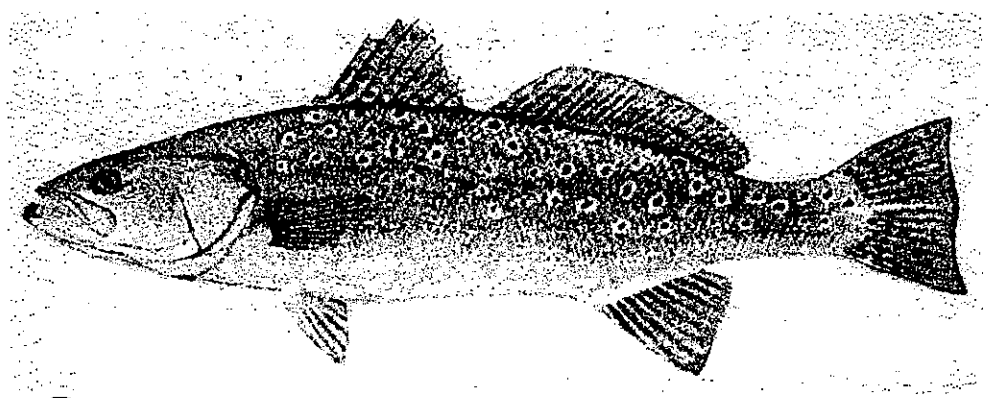
ILLUSTRATIONS BY DUANNE RAVER

AQUATIC EDUCATION
LA. DEPT. OF WILDLIFE AND FISHERIES
P.O. BOX 98000
BATON ROUGE, LA. 70898

IDENTIFICATION GUIDE TO THE COMMON SPORT FISH OF

LOUISIANA





ILLUSTRATIONS BY DUANNE RAVER

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LA. DEPT. OF WILDLIFE AND FISHERIES
P.O. BOX 98000
BATON ROUGE, LA. 70898

WELCOME TO FISHING IN
LOUISIANA

Louisiana is blessed with diverse fisheries habitat. We have a large number of lakes, ponds, bayous, rivers, creeks, marshes, bays, and estuaries. With this diverse habitat comes diverse fisheries populations. In some of our coastal areas an angler can catch both freshwater and saltwater fish species in the same body of water.

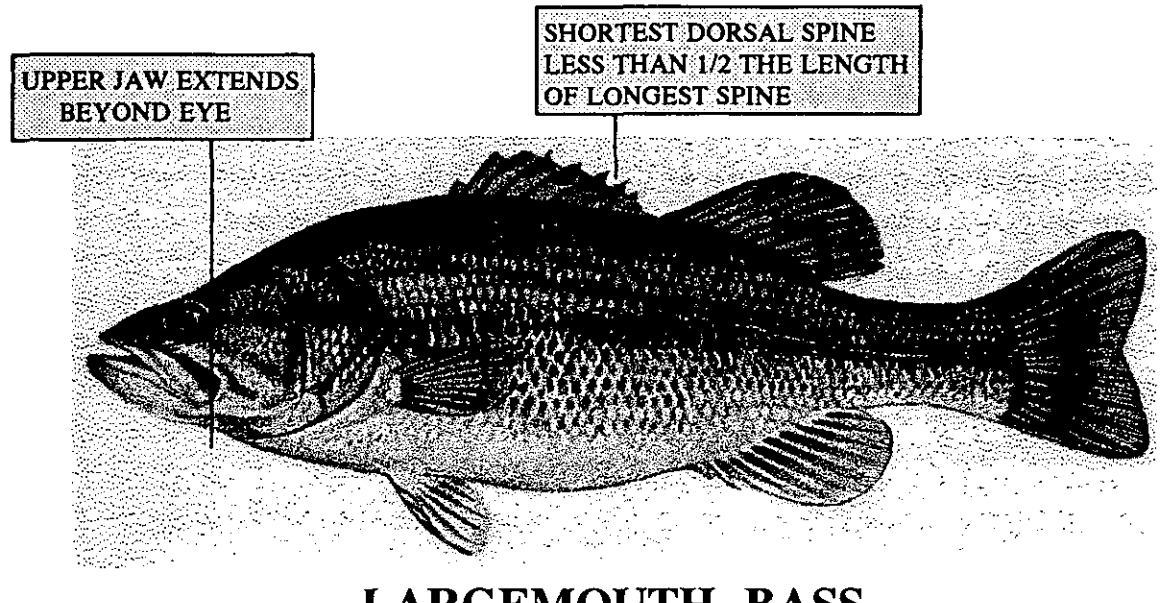
Many of our state's anglers know the different fish that they may encounter. Therefore, this guide may be of little value to them. But there are just as many anglers that are new to the state or who have just began to enjoy the sport of fishing. This guide was developed for those individuals that may have a hard time recognizing the differences between certain species of our more commonly sought after fish.

The identification characteristics illustrated in this guide are simple external features of the fish that may better enable you to distinguish the fish in hand from another possessing similar characteristics. By no means does this guide illustrate the scientific differences that a fisheries biologist uses to distinguish between different species of fish.

We have included the common freshwater and saltwater species in the same publication for your convenience and to acquaint you with the different fish sought after by anglers in Louisiana.

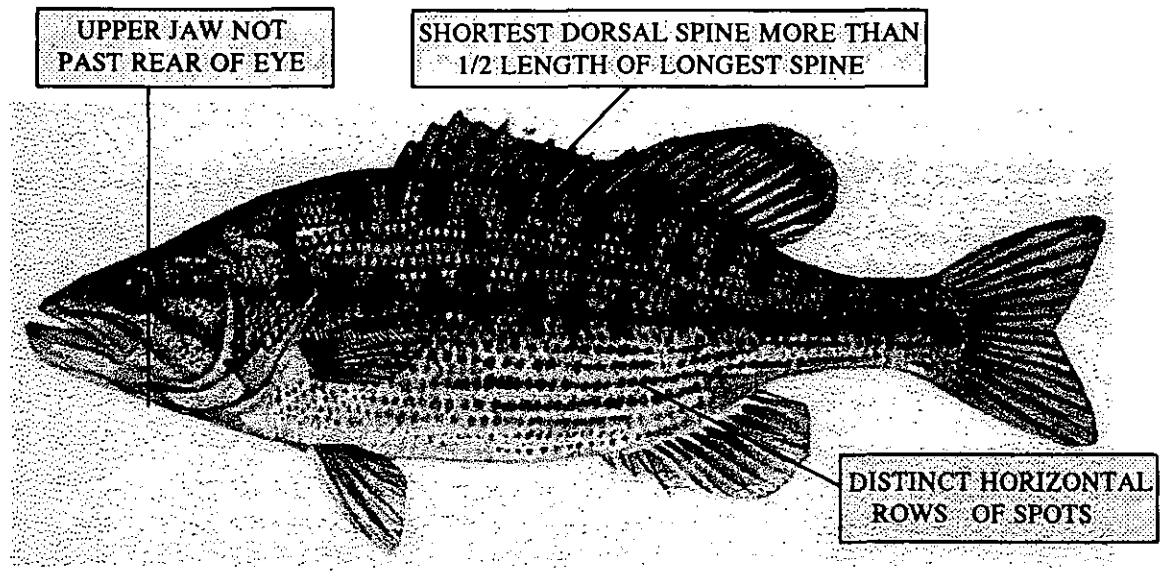
LIST OF COMMONLY USED NAMES OF LOUISIANA SPORT FISH

NAME	LOCAL NAME(S)
Largemouth bass	Green trout, Black bass
Spotted bass	Kentucky bass, Red-eye, and mistakenly Smallmouth
Bluegill	Bream, Sunfish, Bull Bream
Redear sunfish	Shellcracker, Chinquapin
White and Black Crappie	Sac-a-lait, White perch, Callico bass, Speckled bass, Spec
White bass	Barfish, striped bass, Sand bass
Striped bass	Striper, Rockbass
Warmouth	Goggle-eye
Flathead catfish	Opelousas cat, Spotted cat, Gou-John Yellow cat, Ope
Channel catfish	Willow cat, Spotted cat, Eel cat
Spotted sea trout	Speckled trout, "spec"
Red drum	Red fish, Bar bass
Southern flounder	Flatfish, Southern fluke



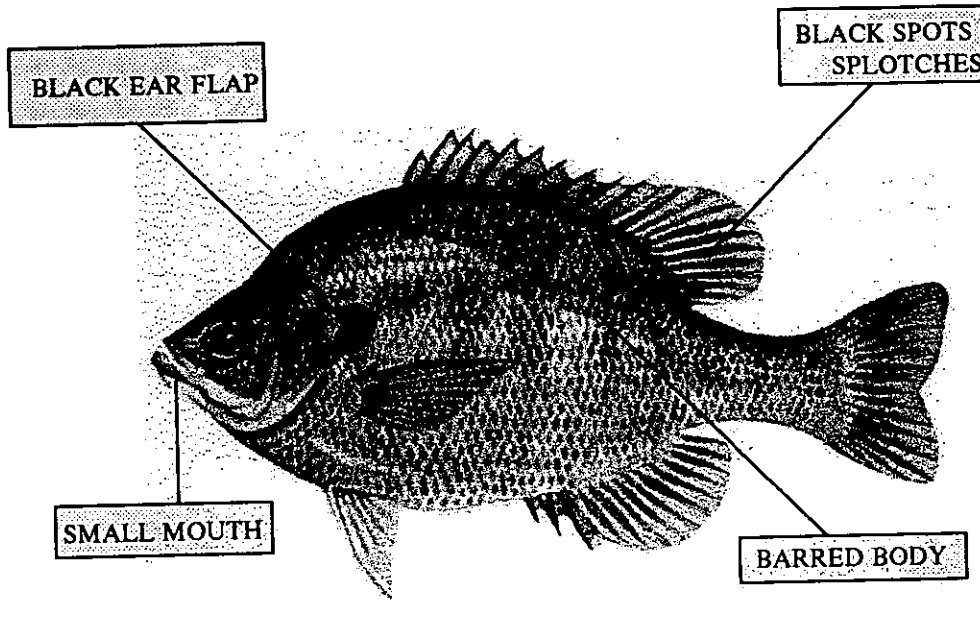
LARGEMOUTH BASS

Micropterus salmoides



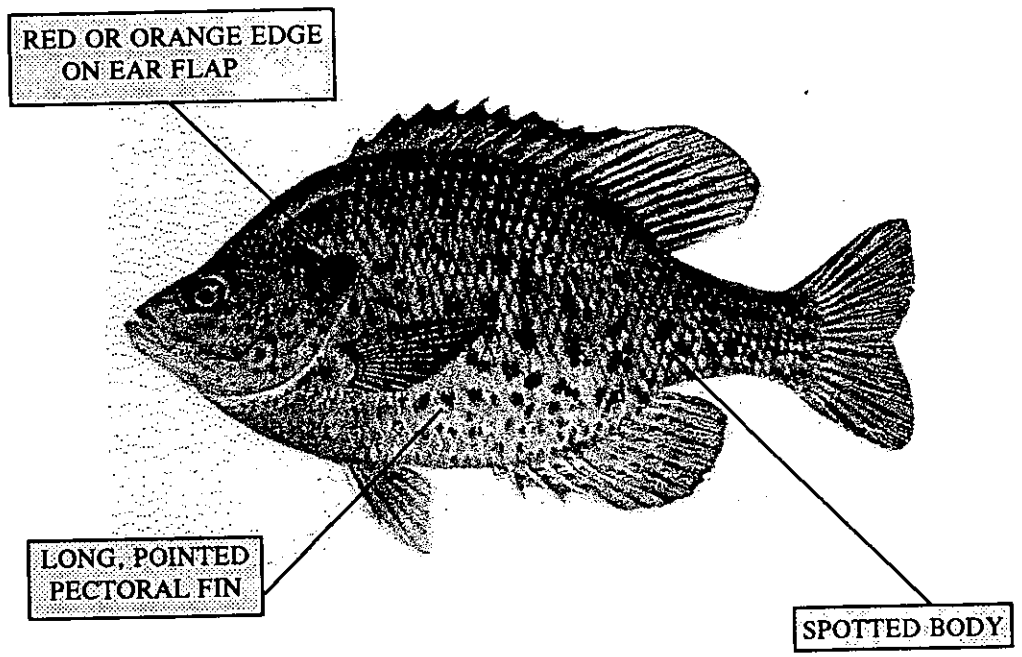
SPOTTED BASS

Micropterus punctulatus



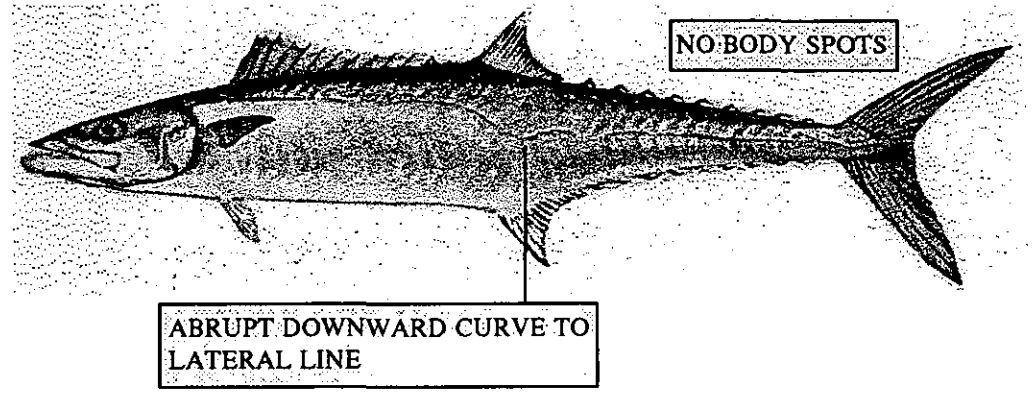
BLUEGILL

Lepmois macrochirus



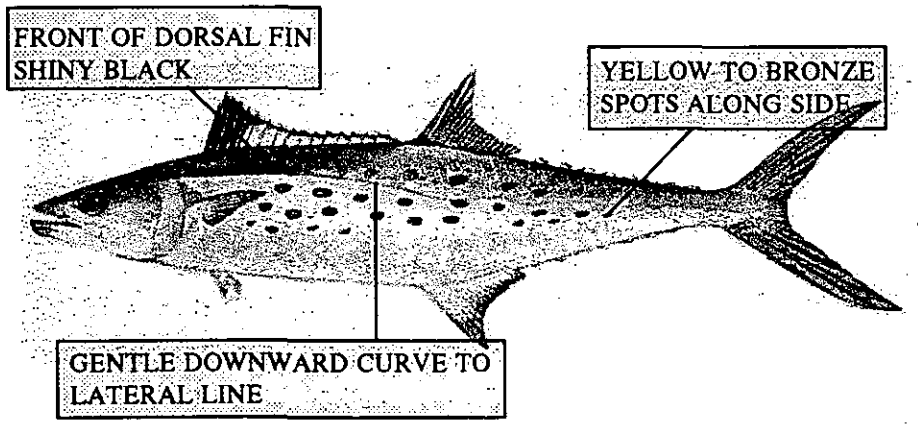
RED EAR

Lepomis microlophus



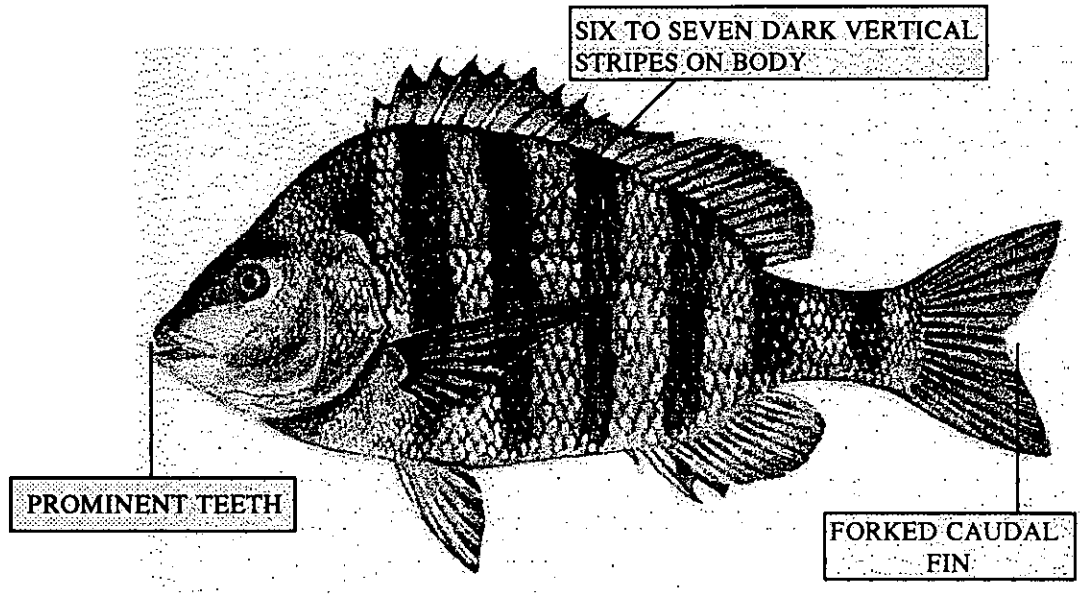
KING MACKEREL

Scomberomerus maculatus



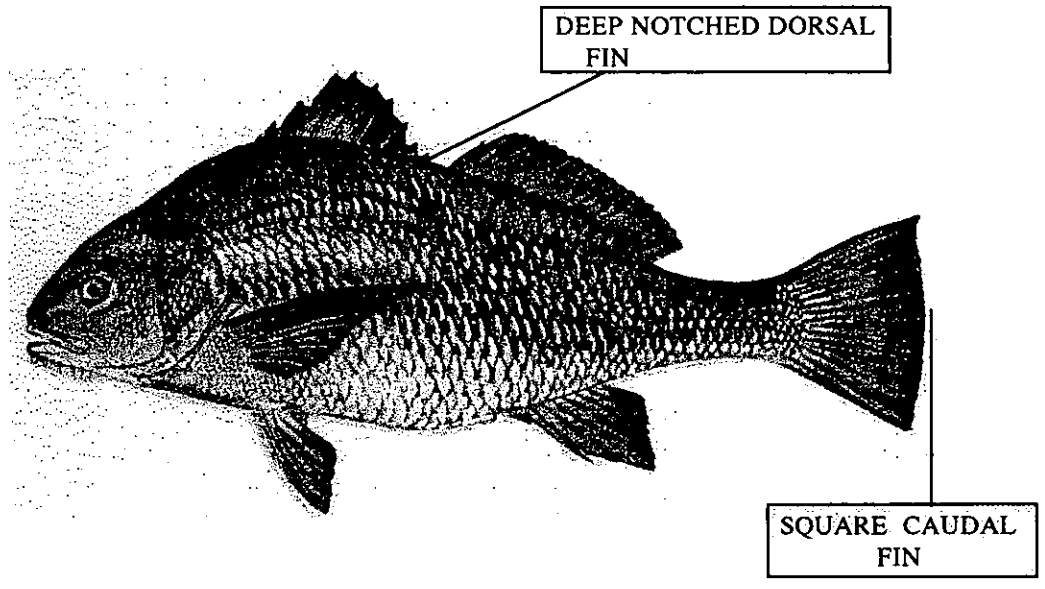
SPANISH MACKEREL

SCOMBEROMERUS MACULATUS



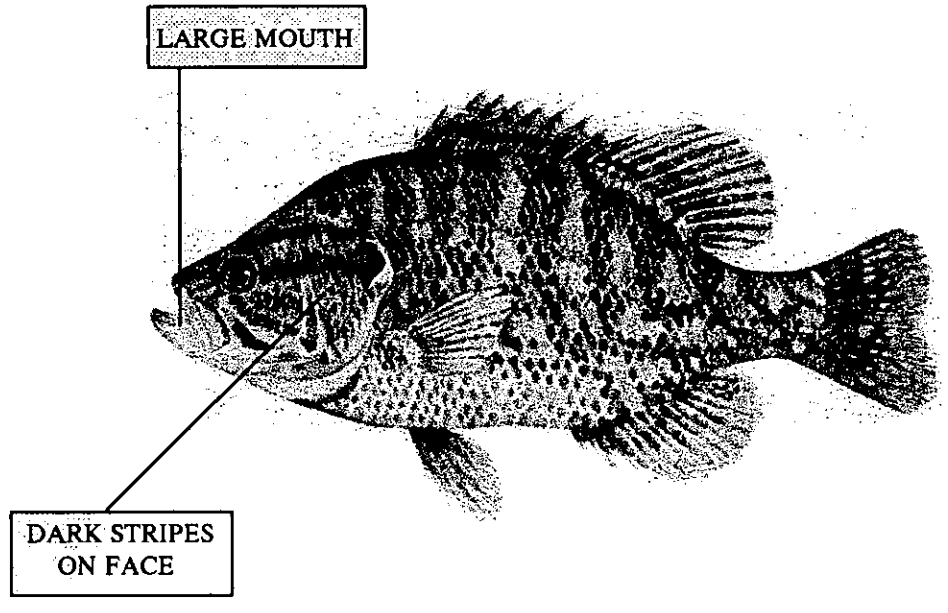
SHEEPSHEAD

Archosargus probatocephalus



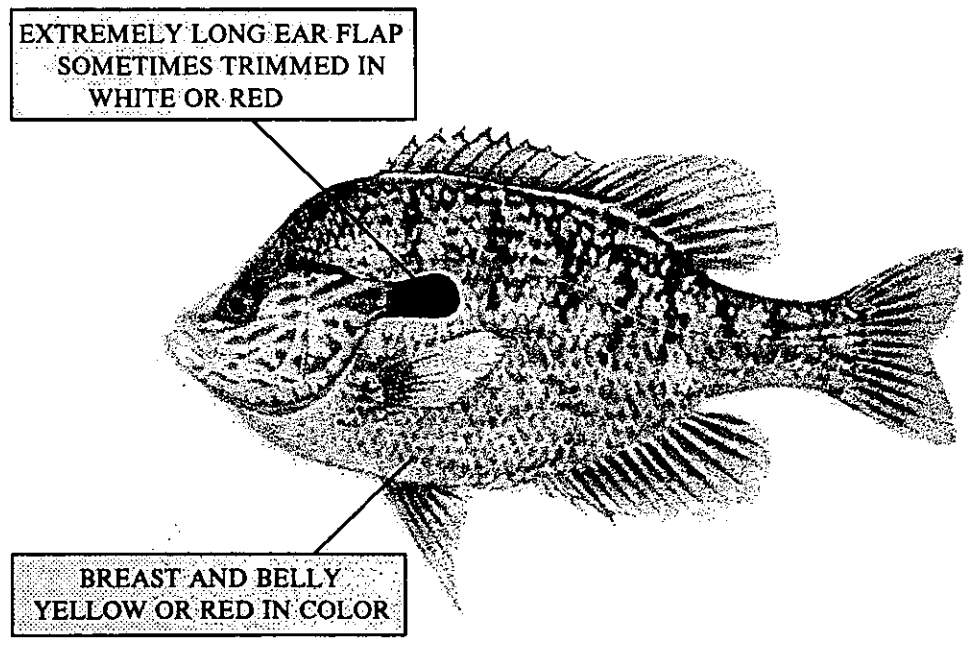
BLACK DRUM

Pobonias cromis



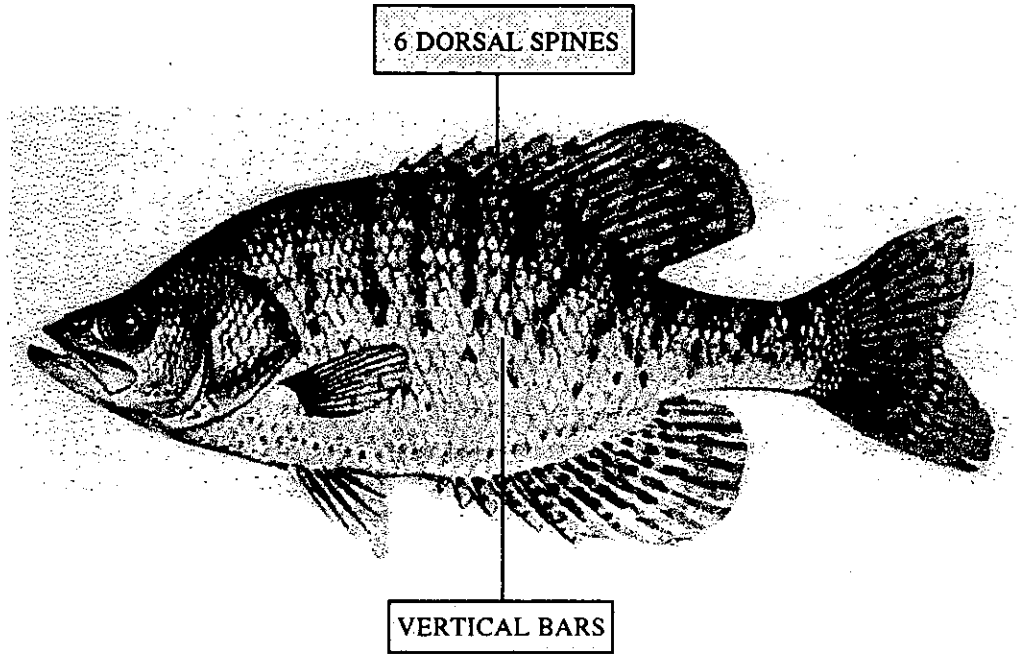
WARMOUTH

Lepomis gulosus



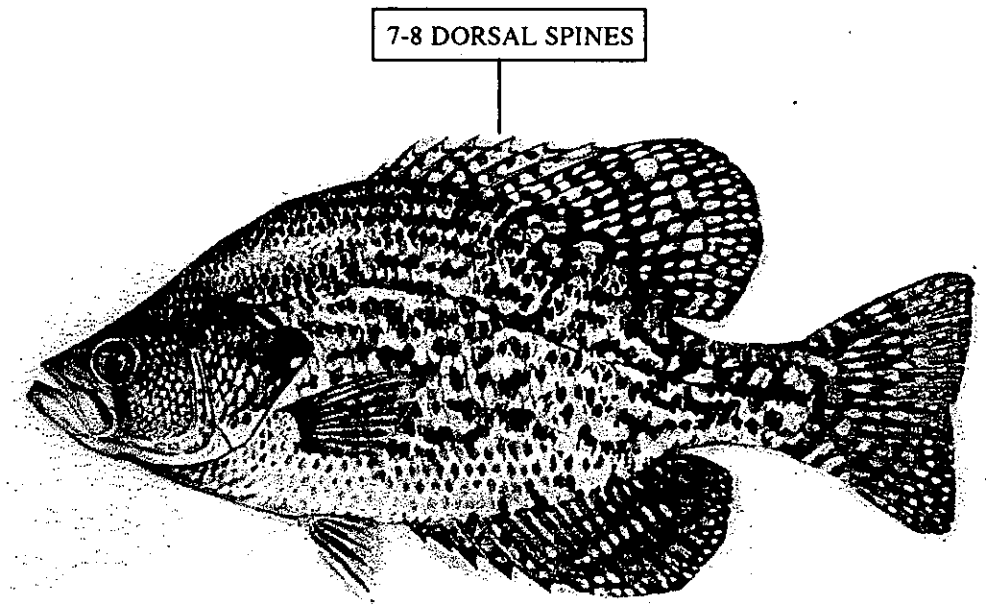
LONGEAR SUNFISH

Lepomis megalotis



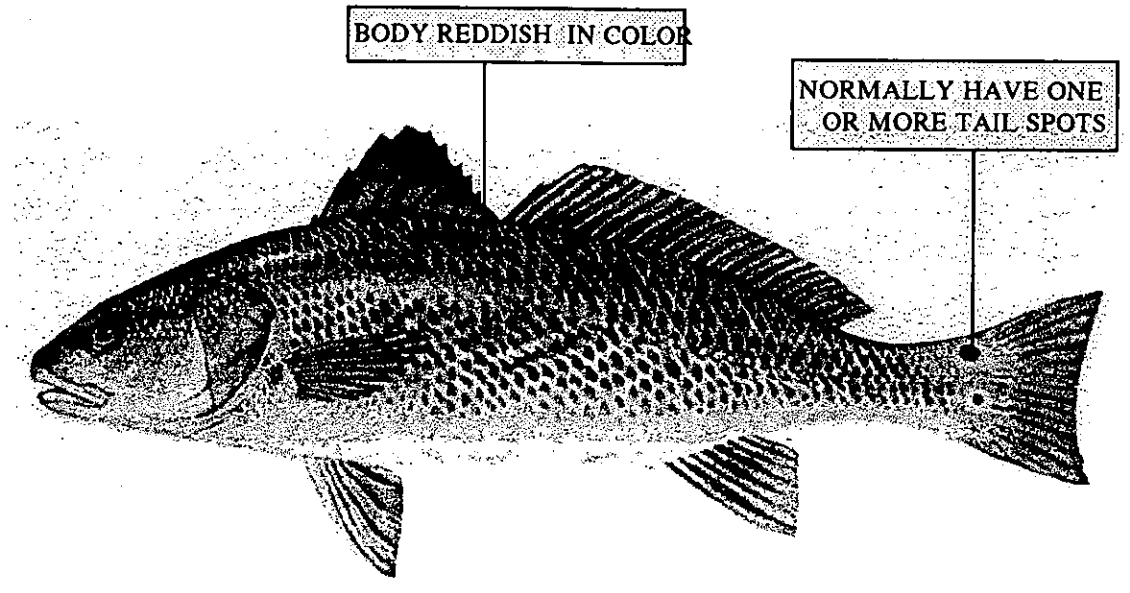
WHITE CRAPPIE

Pomoxis annularis



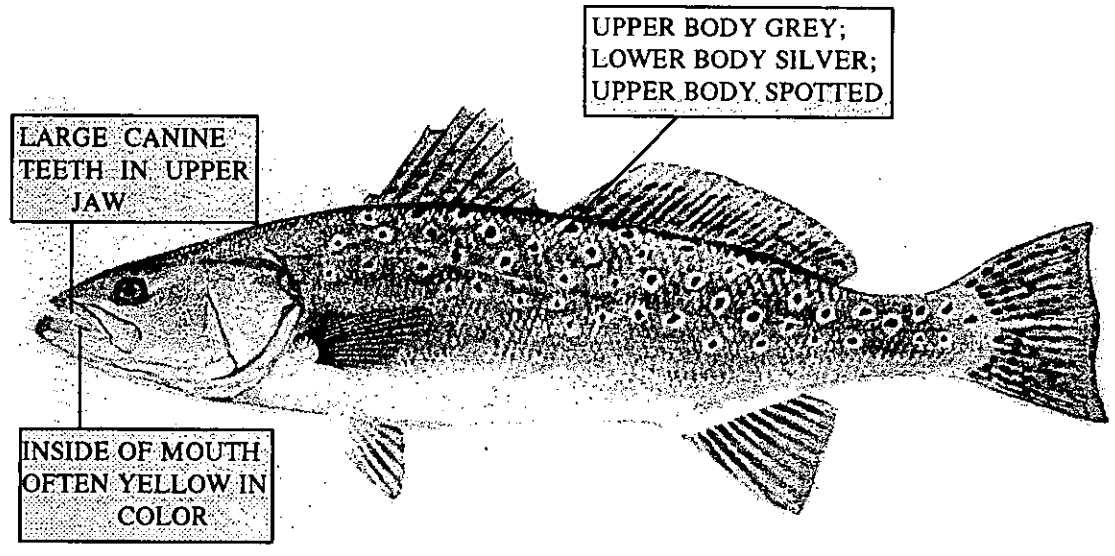
BLACK CRAPPIE

Pomoxis nigromaculatus



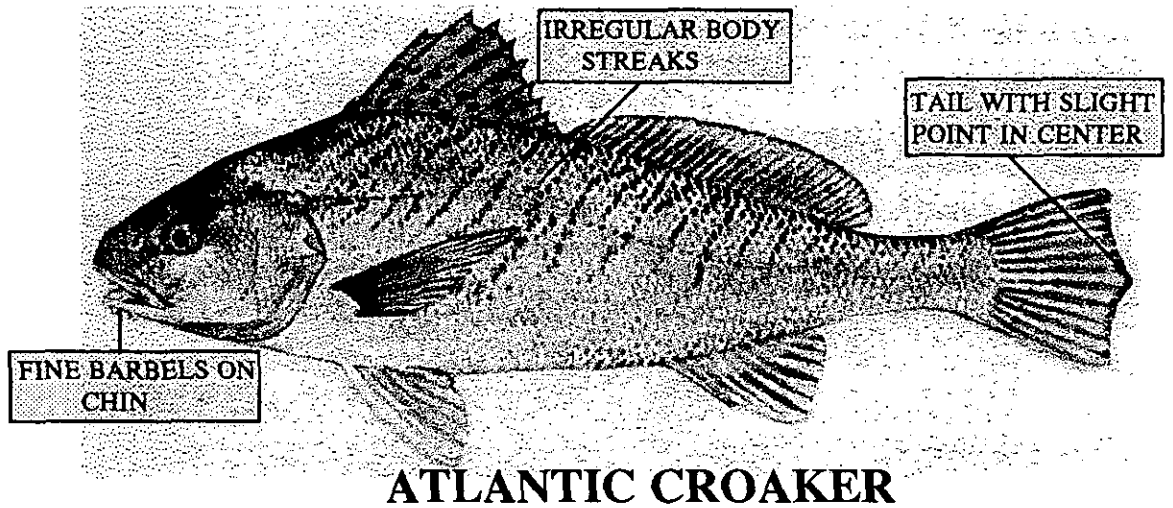
RED DRUM

Sciaenops ocellatus



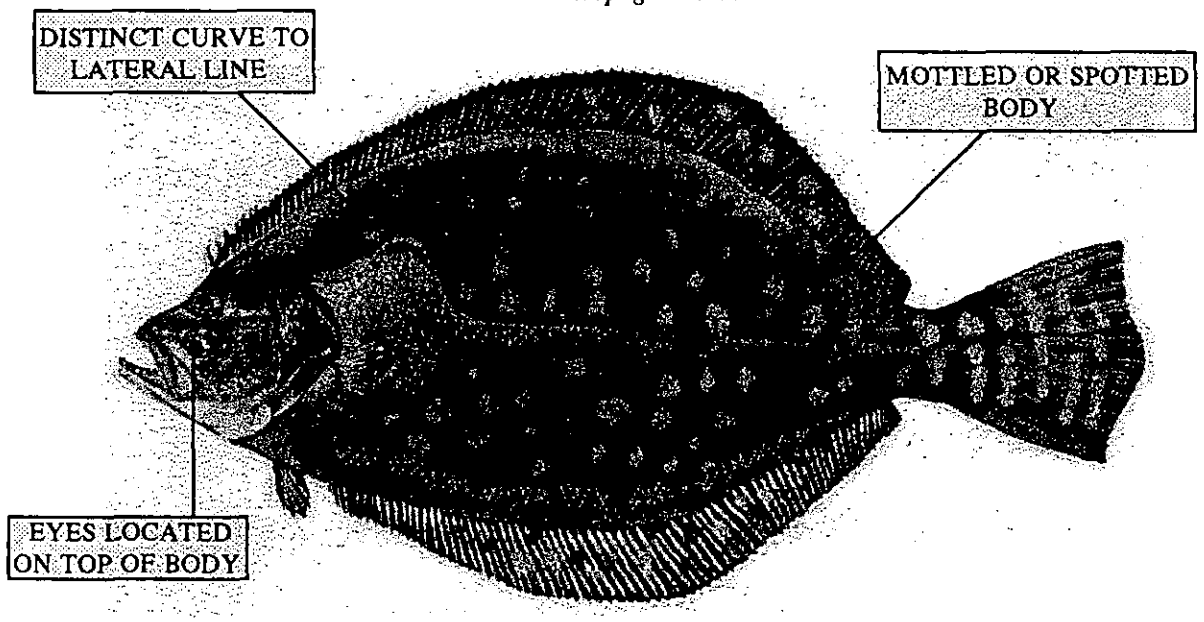
SPOTTED SEATROUT

Cynoscion nebulosus



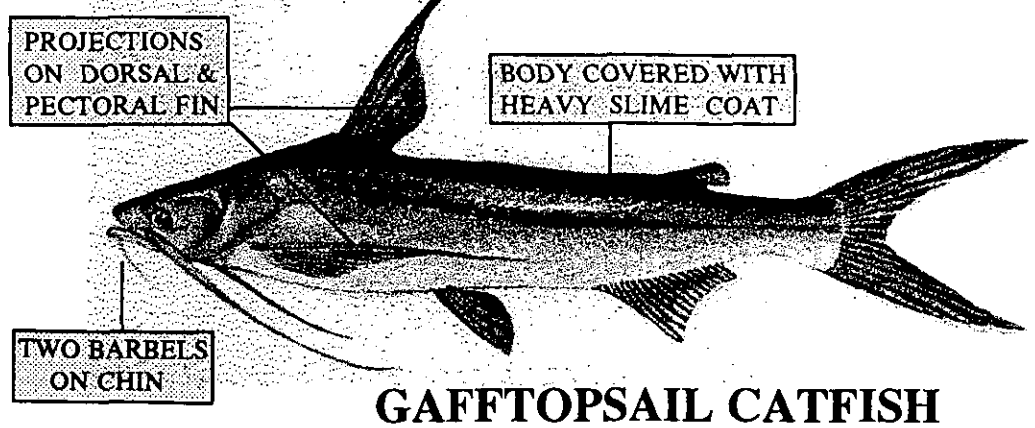
ATLANTIC CROAKER

Micropogonias undulatus



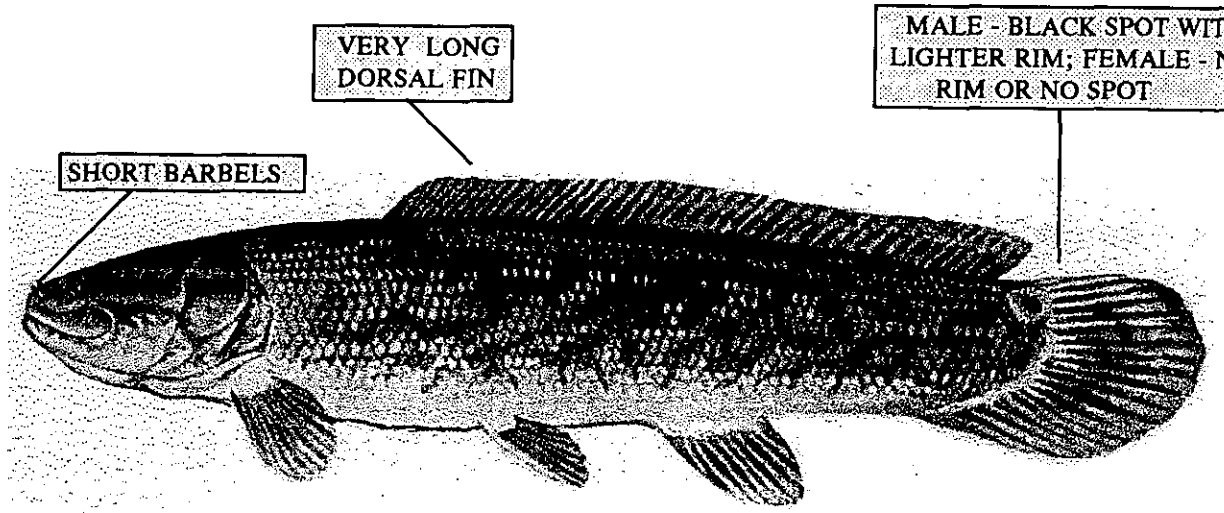
SOUTHERN FLOUNDER

Paralichthys lethostigma



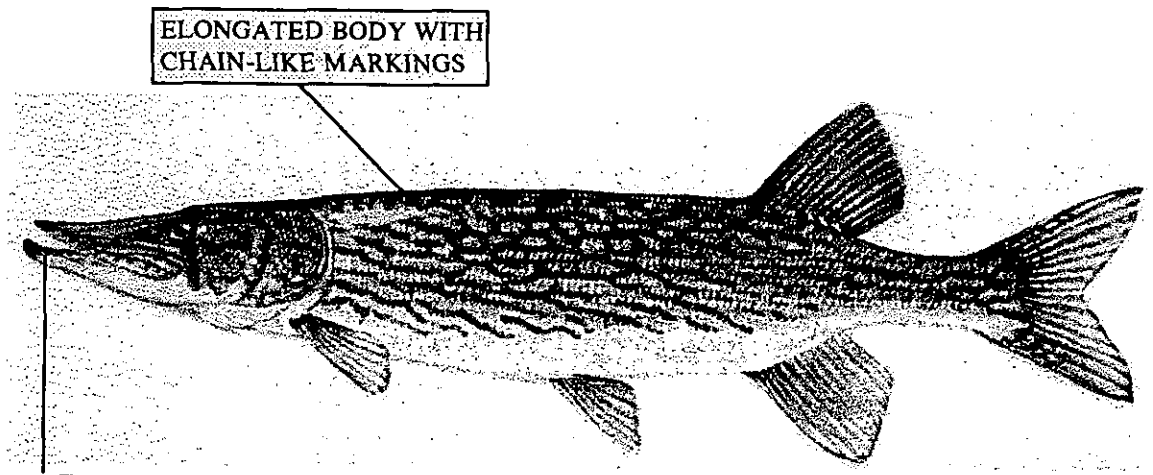
GAFFTOPSAIL CATFISH

Bagre marinus



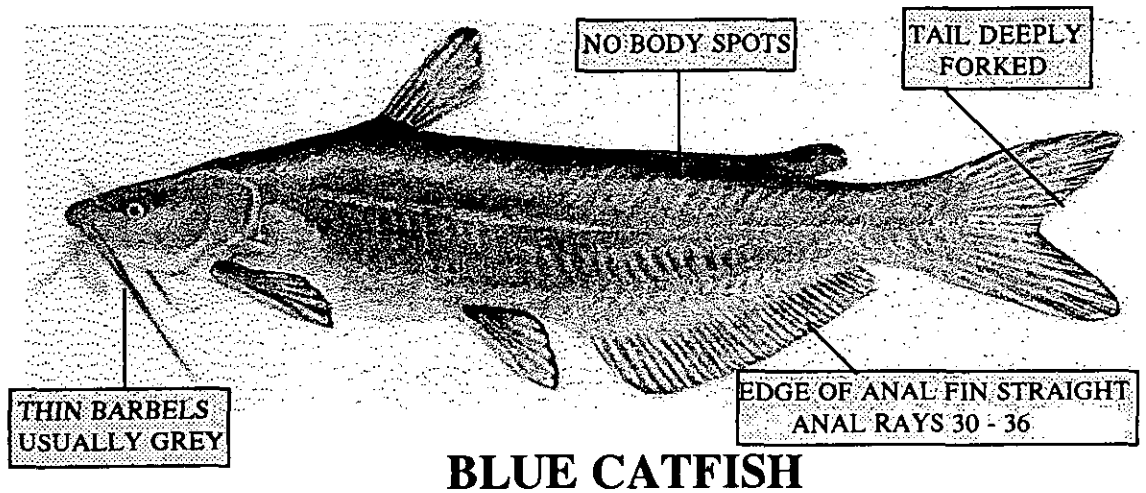
BOWFIN

Amia calva



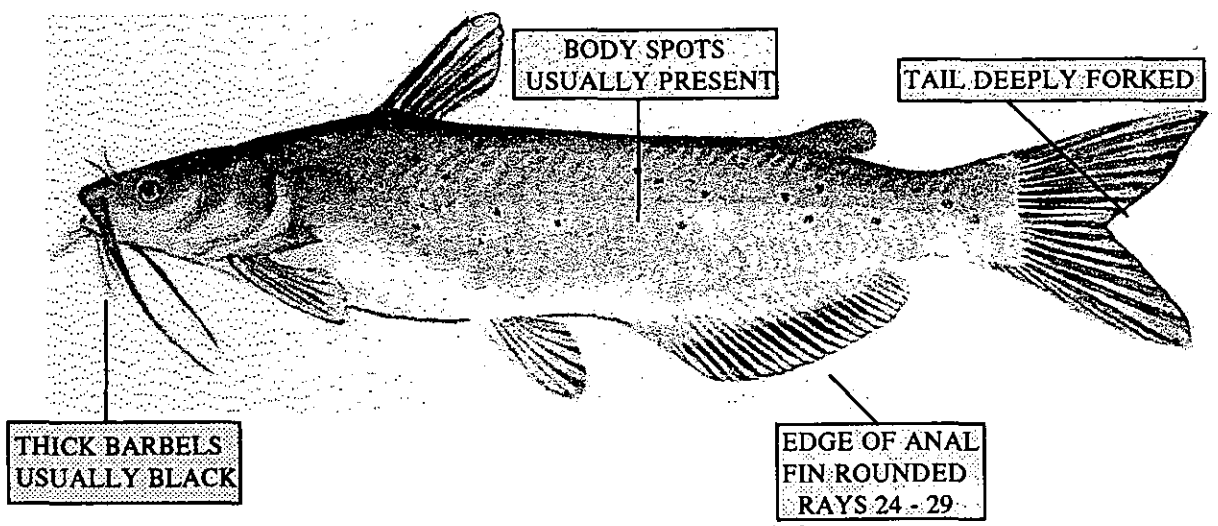
CHAIN PICKEREL

Esox niger



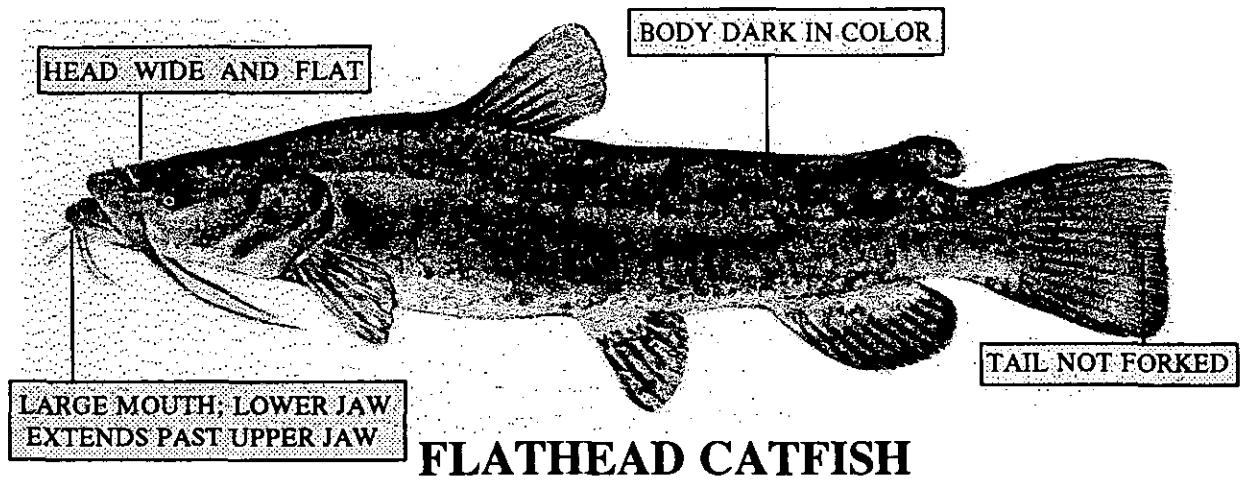
BLUE CATFISH

Ictalurus furcatus



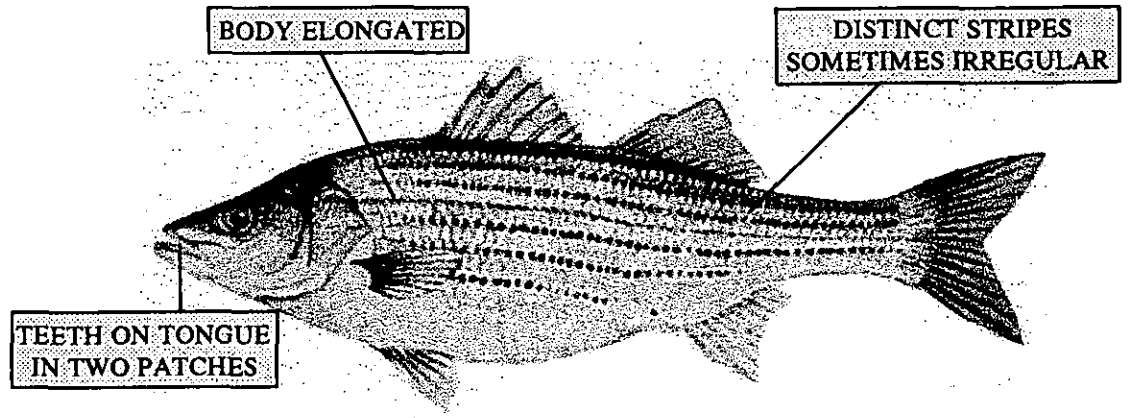
CHANNEL CATFISH

Ictalurus punctatus



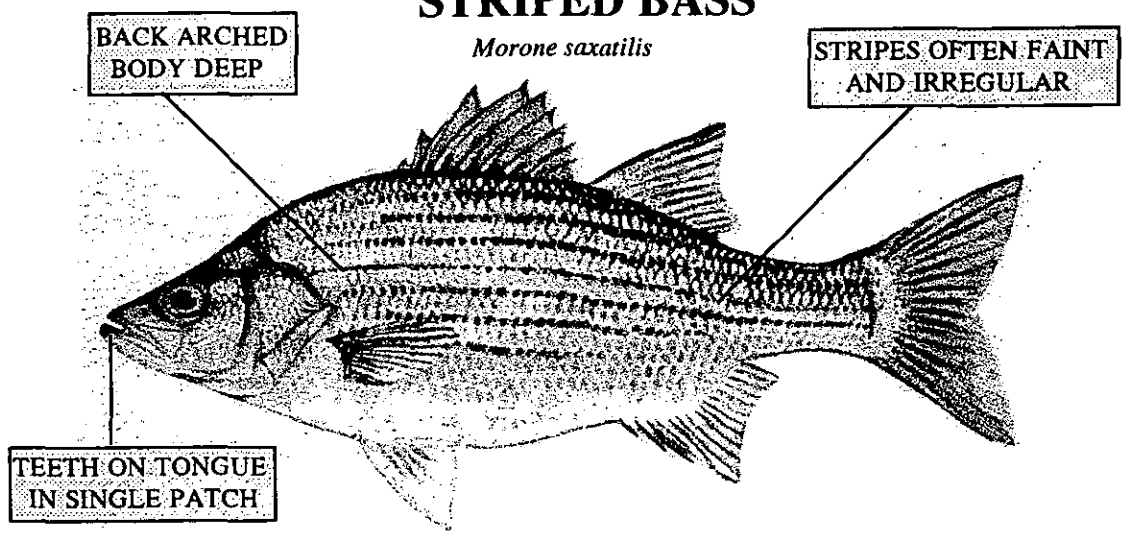
FLATHEAD CATFISH

Pylodictis olivaris



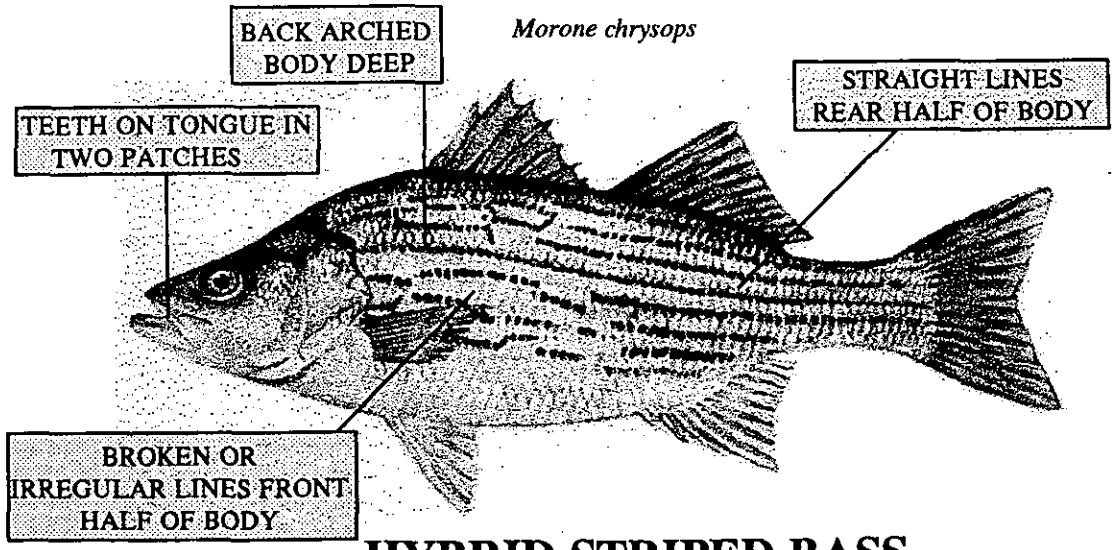
STRIPED BASS

Morone saxatilis



WHITE BASS

Morone chrysops



HYBRID STRIPED BASS

M. chrycops X M. saxatilis

DANIEL B. BARZARE

ATTORNEY AT LAW

500 MAGNOLIA STREET
VILLE PLATTE, LA 70586

OFFICE (318) 363-0707
FAX (318) 363-2609

June 5, 1996

HAND DELIVERED

Mr. Tommy Prickett
Wildlife Division
Department of Wildlife and Fisheries
P.O. Box 98000
Baton Rouge, LA 70898-9000

Re: News Release 96-78

Dear Mr. Prickett:

This is your writer's supplemental response to his previous letter of May 20, 1996.

State Representative Dirk Deville's office has provided me with copies of reading material on Act 2272 of the 1995 legislative session. The packet included the actual Act, the amendments, the hearing committee hearing minutes, and most importantly, the audio tape of the hearing when Representative Toomy introduced said Act to the Natural Resource Committee.

Mr. Fleming Trosclair, a constituent of Representative Toomy, urged his Representative to author the proposed change in the law in the hope that crossbow hunters who are not wheelchaired bound, mobility impaired, or an amputee of the upper extremity, would be precluded from gun hunting on certain WMAs that entertain a special handicapped hunt. Mr. Trosclair pointed out "Ben's Creek WMA."

The whole issue behind the proposed change in the current crossbow permit has ABSOLUTELY nothing to do with archery hunting. Mr. Trosclair and his fellow disabled hunters who hunt from a wheelchair on the designated WMAs ("special designated GUN hunts") are experiencing difficulty when crossbow permittees elect to hunt with a GUN. And at the same time, the crossbow permittees choose to traverse the woods with their ATV. It does not surprise me that the wheelchaired hunters are somewhat peeved by the actions of the crossbow hunters who choose to hunt with a GUN.

From my appreciation of the Act, the aim or the purpose of its passage was to guarantee those wheelchaired Gun hunters some peace of mind while hunting. The Act was aimed at allowing those Gun hunters who possess certain disabilities, ie. wheelchaired bound, loss of an upper extremity, and mobility impaired, to be the ONLY qualified persons for these designated handicapped hunts. Mr. Trosclair felt that persons with lesser disabilities should be

precluded from GUN hunting and not ARCHERY hunting. To repeat, the Act has nothing to do with the future of crossbow hunting in Louisiana.

Representative Toomy indicated that there would be a problem of "overlapping permits." I urge you once again to attach a grandfather clause to the Act.

The Legislature unanimously passed Act 2272, but it did not realize the burden it created on those crossbow permittees who possess a disbility that does not fit withinn the revised criteria.

Sincerely yours,

Daniel B Barzare

DANIEL B. BARZARE

DBB/CPV
cc: Senator Don Hines
State Reprsentative Dirk Deville
Mr. Glynn Carver
Mr. Perry Gisclair
Mr. Daniel J. Babin
Mr. Joseph B. Cormier
Mr. Jerald Hanchey
Mr. Edmund Mcllhenny, Jr.
Mr. John F. "Jeff" Schneider
Mr. Kearney Sonnier

State of Louisiana

James H. Jenkins, Jr.
Secretary

Department of Wildlife and Fisheries
Post Office Box 98000
Baton Rouge, LA 70898-9000
(504)765-2800

M.J. "Mike" Foster
Governor

June 5, 1996

Mr. Jim Chinn
Professional Bowhunters Society
210 Green Acres
Butte, MT 59701

Dear Mr. Chinn:

Bowhunting in Louisiana opens on October 1 as it always has and squirrel hunting opens the first weekend in October (Oct. 5) as it always has. Squirrel hunting is very popular in this state and hunter turnout is high. Bowhunters have never had much time to themselves, but this conflict has never been a serious complaint of the bowhunters. Now, with the muzzleloader season being moved to an earlier schedule in each deer area, the bowhunters are complaining.

Bowhunters have the longest season of any deer hunter user group in this state. This season runs from Oct. 1, 1996- Jan. 31, 1997. This is an increase in hunting days from last year. Bowhunters may hunt with archery equipment during any open gun season, including the muzzleloader season. The seven day muzzle-loader season on private land has been moved from a December framework to an earlier seven day schedule in each deer area. This move was done in order to give the muzzleloader hunters a more appropriate season. Muzzleloaders have a seven day season on private land and a seven day season on some of the public areas. Bowhunters have a one hundred twenty-three day season on private land and a one hundred twenty-three day season on almost all of the public areas. I find it hard to believe that on private land, with its' restricted access, a bowhunter cannot experience a quality hunt while sharing the woods with a few longhunters. We feel the proposed season structure is quite fair to the archery user group.

Enclosed is the proposed season schedule for this year. With the high demand for recreational activity time by both consumptive and non-consumptive user groups, restructuring season dates is not easily done. All groups of hunters want their time in the woods.

Each group is often only concerned about itself and does not want to give or take. It is an attitude that must change as hunting moves forward into the 21st century.

Sincerely,

David Moreland

David Moreland, Deer Study Leader

cc: Wildlife and Fisheries Commission Members
Wildlife Division
Bayou State Bowhunters Association

PROFESSIONAL
BOWHUNTERS SOCIETY
"Knowledge through Experience"

May 27, 1996

Mr. Hugh Bateman
Louisiana Dept. of Wildlife and Fisheries
P.O. Box 98000
Baton Rouge, LA 70898-9000

RE: Archery Season Structure

Dear Mr. Bateman:

The Professional Bowhunters Society is an organization of highly dedicated and motivated bowhunters from across North America and six foreign countries as well, who work in concert to promote and preserve bowhunting. Education and ethics are cornerstones of the foundation of the organization. Included in this membership are many outstanding bowhunters of the highest caliber from Louisiana.

Recently it was brought to the attention of the organization that the bowhunting season in Louisiana will suffer due to a restructuring of the hunting seasons for the benefit of the muzzleloader enthusiast. Let me emphasize that we have no qualms with the muzzleloader enthusiast or any other enthusiast of legitimate sporting equipment. Our concern lies in the structuring of the seasons which will erode the quality of the archery season in Louisiana.

Challenge is an essence of bowhunting, but along with this challenge the bowhunting enthusiast seeks and requires stealth, solitude, and animals functioning in an undisturbed environment as possible. Bowhunting seasons, post any type of firearms seasons, may provide opportunity in sense of time, but it does not provide the spiritual aspects of the sport which the bowhunter seeks.

Simply put, it would appear as though the restructuring of the hunting seasons could easily be accomplished without being a penalty to the hunting archer. I am confident this is an ultimate goal of your agency.

Respectfully,

Jim Chinn

cc: Mr. Glynn Carver

State of Louisiana

James H. Jenkins, Jr.
Secretary

Department of Wildlife and Fisheries
Post Office Box 98000
Baton Rouge, LA 70898-9000
(504)765-2800

M.J. "Mike" Foster
Governor

June 3, 1996

T.J. Conrads, Editor/Publisher
Traditional Bowhunter Magazine
PO Box 15583
Boise, Idaho 83715

Dear Mr. Conrads:

It appears that in their eagerness to gain support for their cause, our Louisiana bowhunters have not provided you with the complete picture regarding the proposed 1996/97 hunting season. The proposed statewide bow season, both private and public land, is October 1, 1996 - January 31, 1997. Bowhunters may harvest either-sex deer during the entire season except when a bucks only gun season is in progress. Bowhunters may hunt with their archery equipment during any gun season, including the muzzleloader season.

The number of bowhunting days has actually increased from the 1995/96 season. Only a small portion of the state was open through Jan. 31 last year. This is a statewide increase of 10 days. Bowhunters have the longest season of any deer hunter user group in this state. It appears that many of our bowhunters are also gun hunters and they put their bows away once the gun season opens. Apparently they feel they may miss out on a kill or something if they continue hunting with their bows.

The 7 day muzzleloader season on private land has been moved from a December framework to an earlier 7 day schedule in each deer area (see enclosures). This move was done in order to give the muzzleloader hunters a more appropriate season. Muzzleloaders have a 7 day season on private land and a 7 day season on some of the public areas. Bowhunters have a 123 day season on private land and a 123 day season on almost all of the public areas. As mentioned above bowhunters may hunt with bow and arrow during the muzzleloader season. I find it hard to believe that on private land, with its' restricted access, a bowhunter cannot experience a quality hunt while sharing the woods with a few longhunters.

This Department does not consider bowhunting to be a non-consumptive activity. Bowhunters harvest around 20,000 deer annually in this state. We fully recognize the importance of bowhunting from an economic standpoint and we feel the proposed season is quite fair for this user group.

One of the problems facing American hunters today is the increased demand for recreational activities by both consumptive and non-consumptive user groups. Everyone wants their time in the woods, but the amount of time available is limited. Hunters, especially deer hunters, are often their own worst enemy. Each group is only concerned about itself and does not want to give or take. It is an attitude that must change. The hunting fraternity has got to be united as we move forward into the 21st century.

Sincerely,

David Moreland, Deer Study Leader

cc: Wildlife and Fisheries Commission Members
Wildlife Division
Bayou State Bowhunters Association

1996/97 DEER HUNTING SCHEDULE

AREA	ARCHERY	STILL HUNT	MUZZLELOADER	W/WO DOGS
1	Oct.1-Jan.31	Nov.16-Dec.1 Jan.4-Jan.19	Nov.9-15	Dec.7-Jan.3
2	Oct.1-Jan.31	Oct.26-Dec.6	Oct.19-25	Dec.7-Jan.5
3	Oct.1-Jan.31	Oct.19-Dec.8 Dec.14-Jan.5	Oct.12-18	
4	Oct.1-Jan.31	Nov.23-Jan.5	Nov.16-22	
5	Oct.1-Jan.31	Nov.23-Dec.1	Nov.16-22 (Bucks only)	
6	Oct.1-Jan.31	Nov.16-Dec.1	Nov.9-15	Dec.7-Jan.19
7	Oct.1-Jan.31	Oct.19-Nov.3 Nov.16-Dec.1	Oct.12-18	Dec.14-Jan.19

Muzzleloader Season on public land- Hunts are scheduled between Dec.2-8; check individual areas for specific dates of hunt.

Youth and Handicapped hunts- Oct.12-13 on Kisatchie National Forest Preserves Oct.19-20 on some wildlife management areas and Nov.9-10 on other wildlife management areas; check individual areas for specific date; statewide handicapped season on private land Oct.12-13

LOUISIANA

HUNTING REGULATIONS 1995-1996

Louisiana 1995 Duck Stamp by John Bertrand. The print depicts White-fronted Geese. Stamps are available at all license outlets. Prints are available through art dealers.

RESIDENT GAME BIRDS AND ANIMALS

(Shooting hours: one-half hour before sunrise to one-half hour after sunset)

Also consult Regulation Pamphlet for seasons or specific regulations on WMAs or specific localities.

SPECIES	SEASON DATES	DAILY BAG LIMIT	POSSESSION LIMIT
Quail	Nov. 23-Feb. 29	10	20
Rabbit	Oct. 7-Feb. 29	8	16
Squirrel	Oct. 7-Jan. 28	8	16
Deer	See Schedule	1 antlered and 1 antlerless (when legal)	6/season
Turkey	Separate turkey hunting regulations will be promulgated in November 1995 and published in December 1995.		

DEER HUNTING SCHEDULE

AREA	ARCHERY	STILL HUNT	MUZZLELOADER (All Either Sex)	WITH OR WITHOUT DOGS
1	Oct. 1-Jan. 31	Nov. 18-Dec. 1 Jan. 5-Jan. 15	Dec. 2-Dec. 8	Dec. 9-Jan. 4
2	Oct. 1-Jan. 21	Oct. 28-Dec. 1	Dec. 2-Dec. 8	Dec. 9-Jan. 4
3	Oct. 1-Jan. 21	Oct. 21-Dec. 1 Dec. 16-Jan. 4	Dec. 2-Dec. 8	
4	Oct. 1-Jan. 21	Nov. 18-Dec. 1 Dec. 9-Jan. 7	Dec. 2-Dec. 8	
5	Oct. 1-Jan. 21	Nov. 18-Nov. 26	Dec. 2-Dec. 8 (BUCKS ONLY)	
6	Oct. 1-Jan. 21	Nov. 18-Dec. 1	Dec. 2-Dec. 8	Dec. 9-Jan. 21
7	Oct. 1-Jan. 21	Oct. 21-Nov. 5 Nov. 18-Nov. 26	Dec. 2-Dec. 8	Dec. 16-Jan. 21
8	Oct. 1-Jan. 21	Nov. 18-Dec. 1 Jan. 5-Jan. 21	Dec. 2-Dec. 8	Dec. 9-Jan. 4

Traditional Bowhunter Magazine

P.O. Box 15583 • Boise, Idaho 83715

May 25, 1996

Hugh Bateman
Administrator, Wildlife Division
Louisiana Department of Wildlife and Fisheries
P.O. Box 9800
Baton Rouge, LA 70898-9000

Dear Mr. Bateman:

I have received numerous letters from many of our readers in Louisiana about the scheduled changes in deer hunting season for the 1996-1997 period. Explicitly, the main concern is the Department's decision to remove one week of archery season and replace it with a week of muzzleloader only hunting.

Although I have to admit I am not up to speed with the progression of archery seasons in Louisiana, I am very much aware of the amount of work it takes to get these passed in the first place. Even though your department may deem archery as "non-consumptive," its seasons do mean a lot to those individuals who have worked long and hard to get them and preserve them, not to mention the amount of revenue it brings into the state in terms of gas, hotel/motel lodging, groceries, and a slew of other incidentals purchased during the act of archery hunting.

Bowhunting is one of the fastest growing hobbies of the outdoor hunter, and the future promises more and more individuals joining these ranks. I should know; I've watched my publication grow from a small, shortly distributed magazine to one which now encompasses bowhunters from over 30 countries, and is displayed and sold on the newsstands in five different countries. I have enclosed a copy of the current issue for your reading pleasure, and to show you another angle of the bowhunters' world.

I would like to ask that you reconsider the proposal, and protect the current archery seasons for your bowhunters, and the next generation of bowhunters.

Sincerely,

T.J. Conrads
Editor/Publisher
(206) 463-1970
FAX 206-463-3197

Southern
Louisiana
Dog
Hunters
Association

P. O. Box 1536
Praieville, La. 70769
Phone (504) 622-5908

May 24, 1995

Dear Mr. Morland,

I would like to notify you that the S.L.D.H.A. is in full support of the recently recommended changes in the upcoming '96-'97 deer season in regards to area 6, which moves the muzzle loader season to the front of the season and opens dog season on Saturday, December 7 instead of Monday, December 9, as originally planned.

I would like to take this opportunity to thank you for the continuing support and our ability to meet with a fair distribution of days in area 6, which was created primarily due to the high Dog hunter participation in this region.

If I can be of any support to you in any way, please do not hesitate to call.

Randy Lanoux
President, S.L.D.H.A

17152 HWY 929
Prarieville, LA 70769

Wildlife Management Area Lottery Duck Hunts

Objective: To develop and implement a quality waterfowl hunting program on Red River on the intensively managed waterfowl impoundments. Hunts will be restricted to a pre-application lottery on the Yakey farm (see attached map).

Need: This area has been extensively developed for wintering waterfowl. In an effort to promote hunting opportunities and still maintain optimal use by wintering waterfowl, it is necessary to develop hunting regimes that will allow for quality hunting opportunities and at the same time minimize disturbance to waterfowl. By establishing lottery hunts, this will allow the department the means to manage hunting pressure. Excessive hunting pressure will often times result in less than quality hunting experiences and redistribute waterfowl to less beneficial areas.

Scope of work: The Department will develop the lottery hunt, including applications, application procedures, deadlines, dates available, fee schedules and number of hunting opportunities per day. Additionally, the Department will provide blind sites, blinds and decoys for the selected hunters. Temporary personnel will be hired to oversee the operation on the hunt days to ensure compliance with the application procedures, assist as needed with the hunt and gather pertinent information on harvest.

Schedule of Significant Dates associated with this Program

Activity	Proposed Date for Accomplishment	Personnel Responsible
Announce Program to the Commission	June Commission Meeting	Morrison/Bateman
Complete Lottery Application Form other pertinent information	July 31, 1996	Helm, Emfinger, Morrison
Purchase necessary blinds, decoys etc.	July 31, 1996	Morrison/Helm
Determine dates for lottery hunts	August 10, 1996	Morrison/Helm
Install Blinds on WMAs	August 20, 1996	Contract/WMA personnel
Make applications available to public	September 1, 1996	Districts
Applications returned to the Department	September 30, 1996	
Hire temporary personnel	October 1, 1996	Prickett
Data entry and successful hunters drawn	October 25, 1996 (preferably sooner)	Wildlife Division
Contact Successful hunter and collect fees	November 1, 1996 (preferably sooner)	?
Return lottery permits	November 4, 1996	?

RED RIVER WMA WATERFOWL LOTTERY APPLICATION 1996-97
Louisiana Department of Wildlife and Fisheries
P. O. Box 98000, Baton Rouge, LA. 70898

To participate in the lottery waterfowl hunts on the Yakey Wetland Development Area, applications must be completed and returned to the above address by September 27, 1996. Applicants must be 18 years of age or older. Hunters may submit a separate application form for each available hunting date listed below. However, no person shall submit more than one application for any single hunting date. Submission of more than one application per hunting date will result in disqualification of the applicant. On November 27 and December 21, applications will be restricted to persons applying that will have at least one hunter under the age of 16 participating in the hunt.

A $5.00 administrative fee will be charged for each application form submitted. Applications must be accompanied by a check or money order made payable to the Louisiana Department of Wildlife and Fisheries. This administrative fee is non-refundable. Applications without a correct social security number and drivers license number will not be processed.

This form is an application for a blind on the Yakey Wetland Development Area. Each blind will accommodate a maximum of 3 people and a successful applicant will be allowed to bring no more than 2 guests. Successful applicants will be notified by mail and required to submit an additional check or money order of $75.00 to the Department for the use of the blind. Upon receipt of the check, 3 permits will be mailed to the successful applicant. In the event the applicant is not able to participate on the date selected, he may transfer his permit to a qualified hunter of his choice. These permits must be signed and in the hunter's possession on the assigned date. Lost or misplaced permits will not be reissued.

Last Name:_____ First Name:_____ Middle Initial:__

Mailing Address:_____

City:_____State:_____Zip:_____

Telephone No. (Home):_____(Work)_____

Social Security No.:_____ Drivers License No.:_____

Date of Birth_____

<u>You are allowed one choice only per application. You may submit additional applications for any of the other dates on separate application forms. Indicate your choice with a check mark. Please note that all hunters will be required to arrive on site by 4:30 A.M. and hunts will be completed by 12:00 noon.</u>

____Nov. 23 (Sat.)	____Dec. 21 (Sat.)	____Jan. 8 (Wed.)
____Nov. 27 (Wed.)	____Dec. 26 (Thurs.)	____Jan. 11 (Sat.)
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____Dec. 7 (Sat.)	____Jan. 4 (Sat.)	

WMA LOTTERY HUNTS
RULES AND REGULATIONS
DRAFT

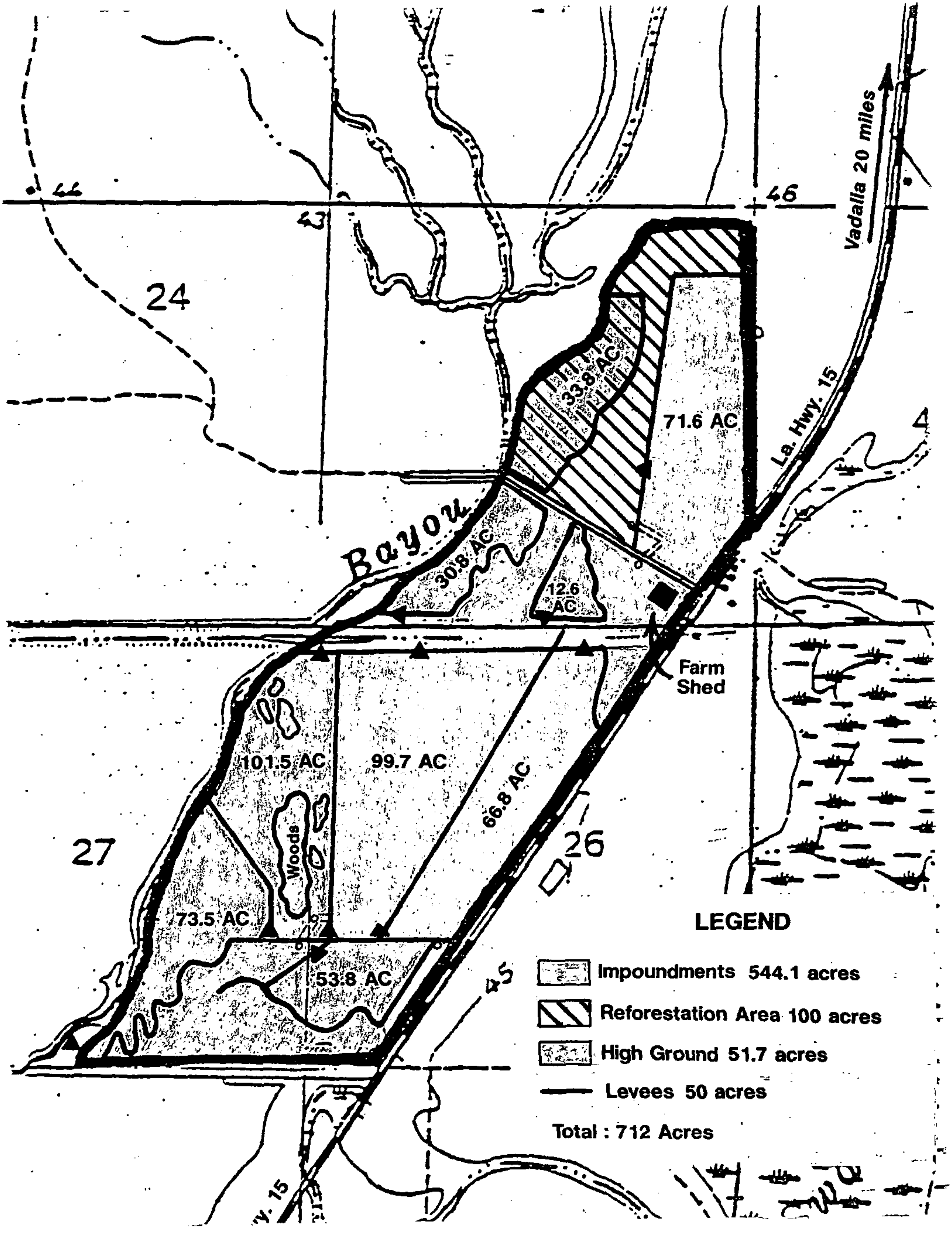
The Department has established a lottery waterfowl hunt on selected WMAs that have the potential to provide excellent waterfowl hunting. Lottery hunts will be restricted to person selected by a pre-application lottery and numbers will be limited to 3 persons/blind with a maximum of 4 blinds/area. Blinds, decoys and transportation to sites near the blind will be provided. Since transportation will be provided, successful applicants will be restricted to the equipment allowed. Only that listed below will be allowed. Additionally, the primary purpose of these hunts is to provide a quality experience. Strict adherence to the following rules and regulations will be required to ensure a safe and enjoyable hunt.

1. **SAFETY IS AND SHOULD BE FIRST AND FOREMOST IN EVERYONE'S MIND. NO LOADED FIREARMS EXCEPT WHILE HUNTING. TAKE EVERY PRECAUTION TO HAVE A SAFE AND ENJOYABLE HUNT.**
2. Selected participants must arrive at the designated site no later than 2 hours before legal shooting time.
3. Blind selection will be made the morning of the hunt by a drawing upon arrival.
4. Each person shall have appropriate licenses (resident small game, state duck stamp and federal duck stamp) prior to arrival. **NO LICENSES WILL BE AVAILABLE AT THE HUNTING SITE.** Licenses will be checked at the same time permits are reviewed. No one will be allowed in a blind without the proper lottery permit or licenses.
5. Blinds are provided. Each group of hunters should be careful not to remove or destroy brush and/or other material used to hide the blind.
6. Each blind is equipped with 4 dozen decoys in the blind. It is the responsibility of each group to put out and pick up decoys before and after the hunt. Please take care with the decoys and make every effort to leave them in as good as shape as you found them.
7. Hunting will be from one/half hour before sunrise until 12:00 noon. Early shooting will be strictly monitored and anyone violating shooting hours will be removed and cited. All hunters must remain at the blind site until picked up.
8. In the case of emergency, each blind is equipped with signal flares and air horns. **UTILIZE THESE ONLY IN THE EVENT OF A SERIOUS OR LIFE THREATENING EMERGENCY.**
9. Legal firearms, as specified in the regulations pamphlet, will be allowed.
10. Only one box of nontoxic shotgun shells/person will be allowed.
11. Recognized retrievers will be allowed provided they remain under control at all times and do not interfere with other hunting parties. Failure to control dogs in the field may subject individuals to removal from the hunt. Only one dog per blind will be allowed.
12. Only items listed in the equipment needs will be allowed due to limited available space while transporting people to the designated hunting sites.
13. Only the following items will be needed for the hunt. Any additional equipment will not be allowed. Shotgun, one box of non-toxic shotgun shells, duck calls (optional), snacks and drinks (**no alcoholic beverages**), waders or hip boots, flashlight, camera, rain gear, camouflage clothing.

14. All hunters will be responsible for removing all litter and trash from the blind and surrounding areas. This includes all spent shotgun hulls. Inspections of the blinds will be made after departure and non-compliance may preclude individulas from future lottery hunts.
15. At he conclusion of the hunt, all birds are to be checked by Department employees or a designee to collect necessary biological data.
16. **SAFETY IS AND SHOULD BE FIRST AND FOREMOST IN EVERYONE'S MIND. NO LOADED FIREARMS EXCEPT WHILE HUNTING. TAKE EVERY PRECAUTION TO HAVE A SAFE AND ENJOYABLE HUNT.**

Equipment Checklist

Waders or hipboots
Shotgun
One box of non-toxic shot gun shells (box of 25)
Duck calls
Flashlight
Snacks and drinks (No alcoholic beverages)
Rain gear
Cameouflage clothing
Camera



Vadalla 20 miles
44
43
46
24
La. Hwy. 15
33.8 AC
71.6 AC
Bayou
30.8 AC
12.6 AC
Farm Shed
101.5 AC
99.7 AC
66.8 AC
Woods
27
26
73.5 AC
53.8 AC
45
Hwy. 15
LEGEND
Impoundments 544.1 acres
Reforestation Area 100 acres
High Ground 51.7 acres
Levees 50 acres
Total : 712 Acres

#6

Wildlife Management Area Lottery Duck Hunts

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Equipment Checklist

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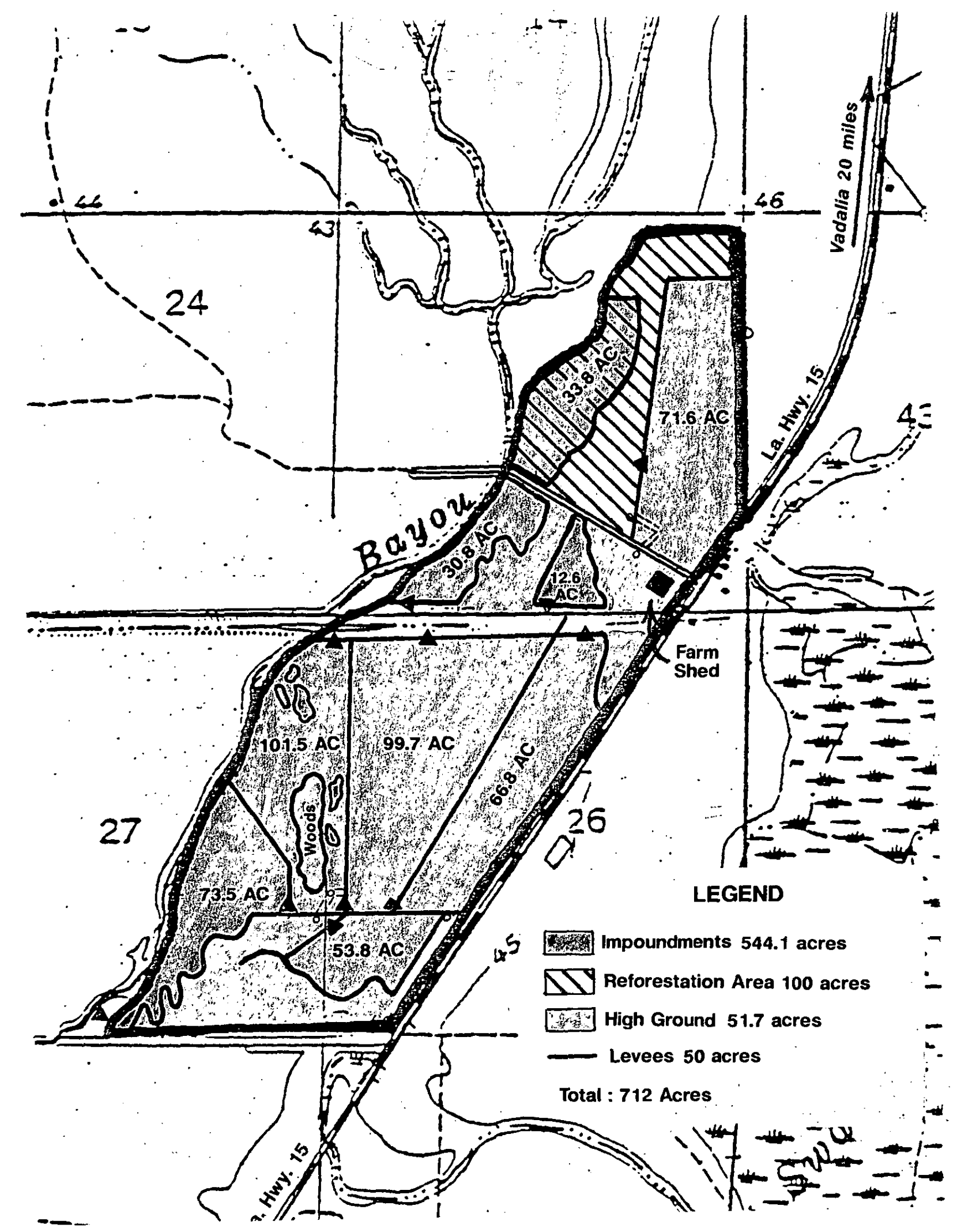
One box of non-toxic shot gun shells (box of 25)
Duck calls
Flashlight
Snacks and drinks (No alcoholic beverages)
Rain gear
Cameouflage clothing
Camera


Vadalia 20 miles
La. Hwy. 15
Bayou
33.8 AC
71.6 AC
30.8 AC
12.6 AC
Farm Shed
101.5 AC
99.7 AC
66.8 AC
Woods
73.5 AC
53.8 AC
24
27
26
LEGEND
Impoundments 544.1 acres
Reforestation Area 100 acres
High Ground 51.7 acres
Levees 50 acres
Total : 712 Acres

1995/96 TURKEY DATA

LOUISIANA STATEWIDE TURKEY BROOD SURVEY

YEAR	NO. OBSERVATIONS	TOMS	HENS W/O POULTS	HENS W/POULTS	NO. POULTS	POULTS/ HENS W/BROODS	POULTS/ ALL HENS
1994	170	149	106	184	746	4.0	2.5
1995	154	96	107	148	814	5.5	3.2

1996 WMA TURKEY HARVEST

WMA	TOTAL HARVEST	TOTAL # HUNTER	SUCCESS RATIO
Bens Creek	21	795	1/37.8
Big Lake	10	469	1/46.9
Bodcau	20	690	1/34.5
Boeuf	3	202	1/67
Boise Vernon	8	442	1/55.2
Camp Beauregard	2	78	1/39
Dewey Wills	16	287	1/17.9
Fort Polk	8	421	1/52.6
Georgia-Pacific	16	464	1/29
Grassy Lake	5	220	1/44
Jackson-Bienville	13	386	1/29.7
Little River	1	11	1/11
Loggy Bayou	4	18	1/4.5
Pearl River	7	184	1/26.3
Peason Ridge	1	84	1/84
Pomme de Terre	3	54	1/18
Red River/Three River	41	724	1/17.7
Sandy Hollow	7	242	1/34.6
Sherburne	42	870	1/20.7
Tunica Hills	3	242	1/80
TOTAL	227	6883	1/30.3

1996 WMA TURKEY HARVEST DATA

WMA	TOTAL HARVEST	NUMBER ADULTS	NUMBER JUVENILE	AVERAGE ADULT WEIGHT	AVERAGE JUV. WEIGHT
Bens Creek	21	19	2	16.8	11.9
Sandy Hollow	7	4	3	16.5	14.7
Pearl River	7	7	0	17.5	----
Grassy Lake	5	3	2	18.5	14.0
Pomme de Terre	3	3	0	19.3	----
Sherburne	42	39	3	17.7	14.6
Tunica Hills	3	2	1	18.4	12.0
Bodcau	20	9	11	19.2	13.6
Jackson-Bienville	13	5	8	19.6	13.6
Loggy Bayou	4	4	0	21.5	----
Red River/Three River	41	19	22	19.7	15.3
Big Lake	10	7	3	17.7	13.5

REPORTED SPRING TURKEY HARVEST (VOLUNTARY)

PARISH	1988	1989	1990	1991	1992	1993	1994	1995	1996
ALLEN	7	1	3	0	1	5	2	1	4
ASCENSION	0	1	1	0	0	0	0	0	0
ASSUMPTION	0	0	0	0	0	0	0	0	0
AVOYELLES	0	0	14	46	20	39	79	24	20
BEAUREGARD	18	13	12	5	6	1	9	4	1
BIENVILLE	25	21	15	11	20	31	59	36	37
BOSSIER	0	2	3	83	45	18	14	5	48
CADDO	0	0	0	0	1	0	0	1	0
CALCASIEU	6	7	1	5	3	7	0	1	0
CALDWELL	8	8	21	5	1	6	13	9	4
CATAHOULA	0	0	3	0	0	0	0	0	0
CLAIBORNE	9	7	22	27	32	35	19	36	33
CONCORDIA	0	0	1	0	44	86	71	29	42
DESOTO	0	0	0	1	4	3	1	1	1
E. BATON ROUGE	26	28	32	4	5	11	34	17	12
E. CARROLL	40	71	33	35	19	29	29	26	9
E. FELICIANA	165	120	86	52	15	28	48	46	39
EVANGELINE	0	0	1	1	0	0	0	0	0
FRANKLIN	8	1	1	1	3	2	5	4	0
GRANT	28	32	16	41	25	21	37	27	25
IBERVILLE	32	66	45	46	55	29	72	140	120
JACKSON	8	9	4	4	1	5	0	0	31
JEFF DAVIS	0	0	0	0	0	0	0	0	0
LASALLE	6	4	4	4	2	2	7	2	10
LINCOLN	0	2	1	2	0	31	27	23	49
LIVINGSTON	42	190	165	69	68	35	82	82	95
MADISON	28	37	25	29	20	18	13	5	6
MOREHOUSE	0	0	0	0	0	0	0	0	15
NATCHITOCHES	35	17	34	35	35	28	32	19	30
OUACHITA	6	4	5	1	0	0	0	0	0
POINT COUPEE	27	29	37	27	24	43	47	45	28
RAPIDES	101	88	55	44	28	22	28	18	14
RED RIVER	1	1	0	0	0	1	0	0	3
RICHLAND	1	0	0	0	0	0	0	0	0
SABINE	5	2	9	2	1	2	0	0	15
ST. HELENA	228	163	158	116	92	72	83	74	68
ST. LANDRY	26	34	30	10	10	18	25	12	13
ST. MARTIN	8	2	12	17	21	21	36	93	44
ST. TAMMANY	42	62	25	40	37	22	31	0	26
TANGIPAHOA	94	104	74	62	65	36	48	42	37
TENSAS	21	75	44	43	26	47	28	19	18
UNION						11	7	12	45
VERNON	110	103	72	81	46	91	41	27	37
WASHINGTON	120	129	134	138	86	125	137	117	171
WEBSTER	0	0	0	21	11	5	56	8	13
W. BATON ROUGE	89	86	89	60	34	38	77	58	51
W. FELICIANA	140	213	231	148	105	102	94	116	67
WINN	4	4	2	1	2	0	0	0	0
TOTALS	1514	1720	1520	1317	1013	1127	1391	1179	1279

1996 REPORTED TURKEY HARVEST BY DISTRICTS

DISTRICT 1 - MINDEN

PARISH	TOTAL HARVEST	ADULTS (%)	JUVENILE (%)
Caddo	0	0	0
Bossier	48	24 (50%)	24 (50%)
Webster	13	12 (92%)	1 (8%)
DeSoto	1	1 (100%)	0
Red River	3	2 (66%)	1 (34%)
Bienville	37	32 (86%)	5 (14%)
Claiborne	33	26 (79%)	7 (21%)
TOTAL	135	97 (72%)	38 (28%)

DISTRICT 2 - MONROE

PARISH	TOTAL HARVEST	ADULTS (%)	JUVENILE (%)
E. Carroll	9	9 (100%)	0
Lincoln	49	40 (82%)	9 (18%)
Union	45	40 (89%)	5 (11%)
Morehouse	15	14 (93%)	1 (7%)
Jackson	31	29 (94%)	2 (6%)
TOTAL	149	132 (89%)	17 (11%)

DISTRICT 3 - ALEXANDRIA

PARISH	TOTAL HARVEST	ADULTS (%)	JUVENILE (%)
Grant	25	16 (64%)	9 (36%)
Natchitoches	30	23 (77%)	7 (23%)
Rapides	14	9 (64%)	5 (36%)
Sabine	15	13 (87%)	2 (23%)
LaSalle	10	9 (90%)	1 (10%)
TOTAL	94	70 (74%)	24 (26%)

DISTRICT 4 - FERRIDAY

PARISH	TOTAL HARVEST	ADULTS (%)	JUVENILE (%)
Caldwell	4	3 (75%)	1 (25%)
Concordia	41	19 (46%)	22 (54%)
Franklin	0	0	0
Madison	6	3 (50%)	3 (50%)
Tensas	18	12 (67%)	6 (33%)
TOTAL	69	37 (53%)	32 (47%)

DISTRICT 5 - LAKE CHARLES

PARISH	TOTAL HARVEST	ADULTS	(%)	JUVENILE	(%)
Allen	4	4	(100%)	0	
Beauregard	1	1	(100%)	0	
Vernon	36	23	(63%)	13	(37%)
Calcasieu	0	0		0	
TOTAL	41	28	(68%)	13	(32%)

DISTRICT 6 - OPELOUSAS

PARISH	TOTAL HARVEST	ADULTS	(%)	JUVENILE	(%)
Avoyelles	20	13	(65%)	7	(35%)
Iberville	120	116	(97%)	4	(3%)
Point Coupee	28	26	(96%)	2	(4%)
St. Landry	13	13	(100%)	0	
St. Martin	44	42	(95%)	2	(5%)
W. Baton Rouge	51	51	(100%)	0	
TOTAL	276	261	(95%)	15	(5%)

DISTRICT 7 - BATON ROUGE

PARISH	TOTAL HARVEST	ADULTS	(%)	JUVENILE	(%)
E. Baton Rouge	12	11	(92%)	1	(8%)
E. Feliciana	39	36	(92%)	3	(8%)
W. Feliciana	67	62	(93%)	5	(7%)
Livingston	95	89	(94%)	6	(6%)
St. Helena	68	58	(85%)	10	(15%)
St. Tammany	26	26	(100%)	0	
Tangipahoa	37	26	(70%)	11	(30%)
Washington	171	153	(89%)	18	(11%)
TOTAL	515	461	(90%)	54	(10%)

STATEWIDE TOTALS

TOTAL HARVEST CHECKED	ADULTS	(%)	JUVENILE	(%)
1279	1086	(84%)	193	(16%)

Estimated Spring Harvest for 1996 is 10,232 turkeys.

TURKEY TRAPPING DATA 1996

BAND NO.	DATE	SEX	TRAP SITE	RELEASE SITE	REMARK
11301	1/04/96	AM	IOWA	TRAVIS TAYLOR - WINN	
11302	"	AM	"	"	
11303	"	AM	"	"	
11304	"	AM	"	"	
11309	1/05/96	AM	"	"	
11315	1/10/96	AF	"	"	
11316	"	JF	"	"	
11317	"	AF	"	"	
11318	"	JF	"	"	
11319	"	JF	"	"	
11320	"	JF	"	"	
11321	"	JF	"	"	
11322	"	JF	"	"	
11323	"	AF	"	"	
11324	"	JF	"	"	
11325	"	AF	"	"	
11326	"	AF	"	"	
11327	"	AF	"	"	
11328	"	AF	"	"	
11329	"	AF	"	"	
10289	1/05/96	AM	IOWA	PORT-DE-LUCE - WINN	
10288	"	AM	"	"	
10286	"	JF	"	"	
10285	"	AM	"	"	
10273	1/09/96	JM	"	"	
11330	1/10/96	JF	"	"	
11331	"	JF	"	"	
11332	"	AF	"	"	
11333	"	AF	"	"	
11334	"	AM	"	"	
11335	"	JF	"	"	
11336	"	AF	"	"	
11337	"	AF	"	"	
11338	"	AF	"	"	
11339	"	AF	"	"	
11340	"	AF	"	"	BEARD
11341	"	AF	"	"	
11305	1/04/96	AM	IOWA	LONG-RADISSON - WINN	
11306	"	AM	"	"	
11307	"	AM	"	"	
11308	"	AM	"	"	
11310	1/05/96	AM	"	"	
11311	"	AF	"	"	
11312	"	JF	"	"	
11313	"	AF	"	"	
11314	1/05/96	JF	IOWA	LONG-RADISSON - WINN	
10284	1/09/96	AF	"	"	
10283	"	JF	"	"	
10282	"	AF	"	"	
10281	"	AF	"	"	
10280	"	AF	"	"	
10279	"	AF	"	"	
10278	"	AF	"	"	
10277	"	AF	"	"	
10276	"	JF	"	"	
10275	"	AF	"	"	
10274	"	AF	"	"	
10251	1/04/96	AM	IOWA	GRIFFIN - WINN	
10252	"	AM	"	"	
10253	"	AM	"	"	
10254	"	AM	"	"	
10255	"	AM	"	"	
10293	1/05/96	AF	"	"	

TURKEY TRAPPING DATA 1996

BAND NO.	DATE	SEX	TRAP SITE	RELEASE SITE	REMARK
10292	"	JF	"	"	
10291	"	AF	"	"	
10290	"	JF	"	"	
10256	1/10/96	JF	"	"	WING # 1
10257	"	AF	"	"	WING # 2
10258	"	AF	"	"	WING # 3
10259	"	JF	"	"	WING # 4
10260	"	JF	"	"	WING # 5
10261	"	JF	"	"	WING # 6
10262	"	AF	"	"	WING # 7
10263	"	AF	"	"	WING # 8
10264	"	JF	"	"	WING # 9
10265	"	AF	"	"	WING #10
10266	"	AF	"	"	WING #11
7754	2/13/96	AF	FOOTE PROPERTY-EBR	CDC RELEASE-CADDO	
7753	"	IF	"	"	
7752	"	AF	"	"	
7750	"	AF	"	"	
7749	"	AF	"	"	
7748	"	AF	"	"	
7747	"	AF	"	"	
7746	"	AF	"	"	
11151	2/21/96	AM	SICILY ISLAND HILLS	CDC RELEASE-CADDO	
11152	"	AM	"	"	
11139	"	AF	"	"	
11142	"	IF	"	"	
11138	"	AF	"	"	
11149	"	AM	"	"	
11145	"	AF	"	"	
11143	"	AF	"	"	
11137	"	AF	"	"	
11140	"	IF	"	"	
10345	2/22/96	IM	BIENVILLE PH.	CDC RELEASE-CADDO	
11150	"	AM	SICILY ISLAND HILLS	CDC RELEASE-CADDO	
2101	1/05/96	AM	IOWA	KEATCHIE-DESOTO	
2102	"	AM	"	"	
2103	"	AM	"	"	
2104	2/10/96	AM	"	"	
2105	"	AM	"	"	
2106	"	IF	"	"	
2107	"	IF	"	"	
2108	"	IF	"	"	
2109	"	IF	"	"	
2110	"	AF	"	"	
2111	"	AF	"	"	
2112	"	IF	"	"	
2113	"	IF	"	"	
2114	2/10/96	IF	IOWA	KEATCHIE-DESOTO	
2115	2/09/96	AF	"	"	
2116	"	IF	"	"	
2117	"	IF	"	"	
2118	"	IF	"	"	
2119	"	IF	"	"	
2120	"	IF	"	"	
10340	2/22/96	IM	BIENVILLE PH	PAW PAW BAYOU-CADDO	
11147	"	AF	SICILY ISLAND HILLS	PAW PAW BAYOU-CADDO	
11148	"	AF	"	"	
11144	"	AF	"	"	
11140	"	AF	"	"	
11146	"	AF	"	"	
11156	2/23/96	AM	"	"	
11153	2/26/96	AM	"	"	
11154	2/26/96	AM	"	"	
11155	"	AM	"	"	
10398	3/12/96	AF	BODCAU WMA	PAW PAW BAYOU-CADDO	
10397	"	AF	"	"	

TURKEY TRAPPING DATA 1996

BAND NO.	DATE	SEX	TRAP SITE	RELEASE SITE	REMARK
10396	"	AF	"	"	
10395	"	AF	"	"	
10394	"	AF	"	"	
10393	"	AF	"	"	
10827	2/10/96	AF	IOWA	COX'S CROSSING-BIENVILLE	WING # 8
10828	"	AF	"	"	WING # 9
10829	"	AF	"	"	WING #10
10830	"	AF	"	"	WING #11
10831	"	AF	"	"	WING #12
10832	"	JF	"	"	WING #13
10833	"	JF	"	"	WING #14
10834	"	JF	"	"	WING #15
10835	"	JF	"	"	WING #16
10836	"	JF	"	"	WING #17
10837	"	JF	"	"	WING #18
10838	"	AF	"	"	
10267	2/09/96	IF	CATAHOULA RANGER DIS.	RELEASED ON SITE	105.677
10268	"	AF	"	"	105.756
10269	"	AF	"	"	105.646
10270	"	IF	"	"	105.656
10271	"	AF	"	"	105.686
10272	"	AF	"	"	105.767
11567	"	IF	"	"	105.837
11569	"	IF	"	"	105.866
11577	"	IF	"	"	105.798
11579	"	IF	"	"	105.626
7745	3/13/96	AF	FOOTE PROPERTY EBR	RELEASED ON SITE	
10348		IF	LUCKY-BIENVILLE PH	SABINE PH.-SPRING CREEK	
10349		IM	"	"	
10350		IM	"	"	
10351		IM	"	"	
10339		MF	"	"	
10343		MF	"	"	
10342		MF	"	"	
10341		IF	"	"	
10346		IF	"	"	
10344		MF	"	"	
10059	2/12/96	AM	SHERBURNE WMA	RELEASED ON SITE	
11745	"	AM	"	"	
11748	"	AM	"	"	
11746	"	AM	"	"	
10068	"	AM	"	"	
11747	"	AM	"	"	
11749	"	AM	"	"	
11750	"	AM	"	"	
11751	"	AM	"	"	
11752	"	AM	"	"	
11737	2/21/96	FA	SHERBURNE - GTR	RELEASED ON SITE	105.507
11738	"	FA	"	"	105.537
10006	"	FA	"	"	105.588
11739	"	JF	"	"	
11740	"	AF	"	"	105.566
11741	"	JF	"	"	101.477
11742	2/22/96	AF	SHERBURNE PIPELINE	RELEASED ON SITE	
11743	"	AF	"	"	
11744	"	AF	"	"	
11753	"	AF	"	"	
11754	"	JF	"	"	
11755	"	AF	"	"	
11756	"	AF	"	"	
11757	"	JF	"	"	
11758	"	AF	"	"	150.559
11759	"	IF	"	"	150.527
11760	"	IF	"	"	150.547
11761	"	AF	"	"	150.597
11762	"	AF	"	"	150.576
11763	"	IF	"	"	

ENFORCEMENT CASE REPORT

MAY 1996

ENFORCEMENT CASE REPORT-MAY 1996

REGION I

TOTAL CASES-125

ENFORCEMENT-125

OTHER DIV. - 0

48-Boating

12-Angling W/O A License

3-Fishing W/O Non-Resident License

45-Fishing W/O Cane Pole License

2-Failure To Comply W/Bow & Arrow Regulations

2-Take Illegal Size Black Bass

1-Take Commercial Fish W/Commercial Gear License

2-Sell And/Or Buy Fish W/O Non-Res. Wholesale/Retail Dealers License

3-Take/Poss. Undersize Commercial Finfish

3-Commercial Truck W/O Display Of Owner Name & Address

1-Operate Vehicle While Intoxicated

1-Littering

1-Other Than Wildlife And Fisheries

CONFISCATIONS:

2-bows, 1 fish arrow, 20 turtle nets, 4 illegal black bass, 3,816 catfish sold to Sabine Fish Market and 150 pounds of buffalo sold for $616.00.

TOTAL OF EACH CATEGORY FOR REGION I:

48-Boating

64-Sport Fishing

9-Commercial Fishing

3 -Other.

REGION 2

TOTAL CASES-126

ENFORCEMENT-126

OTHER DIV. - 0

72-Boating

1-No Recreational Gear License

1-Take Game Fish Illegal Method

1-Violate Rules And Regs. Of Harvest Or Sale Of Freshwater Mussels

27-Angling W/O A License

4-Angling W/O A Non-Resident License

6-Fish W/O A Resident Pole License

4-Take Illegal Size Black Bass

1-Take Deer Closed Season

1-Take Deer W/Illegal Weapon

1-Resisting An Officer

2-Operate Watercraft While Intoxicated

5-Other Than Wildlife And Fisheries

CONFISCATIONS:

1 mussel harvester license, 1 resident fish license, 5 black bass, 1 bream, 1 small bag deer ribs.

TOTAL OF EACH CATEGORY FOR REGION 2:

72-Boating

4-Public Assistance

3-Commercial Fishing

41-Fishing

2-Hunting

8-Other

REGION 3

TOTAL CASES-223

ENFORCEMENT-216

OTHER DIV. - 7

69-Boating

86-Angling W/O License In Possession

8-Angling W/O Non-Resident License In Possession

11-Fishing W/O Resident Pole License

1-Use Recreational Gear W/O Gear License

4-Take Illegal/Undersize Black Bass

1-Take Commercial Fish W/O License

2-Take Commercial Fish W/O Gear License

3-Sell Fish W/O Wholesale/Retail License

2-Fail To Maintain Records

1-Fail To Tag Nets

3-Frog In Closed Season

2-Not Abiding By Rules And Regs. On WMA

13-Littering

13-Criminal Trespass On State Property

1-Illegal Spotlighting From Public Road

1-Reckless Operation Of Motor Vehicle

1-Improper Lane Usage

1-Illegal Possession Of Marijuana

CONFISCATIONS:

5 black bass, 128 pounds of catfish 4 bullfrogs, 1-300 feet of 5 inch gill net, 1 ice chest, 1 Xerox commercial wholesale/retail license, 1 cup marijuana.

REGION 3 CONT'D.

TOTAL OF EACH CATEGORY FOR REGION 3:

69-Boating

12-Commercial Fishing

110-Sport Fishing

2-Hunting

30-Other

2-Public Assistance

REGION 4

TOTAL CASES-112 ENFORCEMENT-112

OTHER - 0

59-Boating

18-Angling W/O A License

16-Angling W/O A Non-Resident License

7-Fishing WO Resident Pole License

3-Take Or Possess Spoonbill Catfish

1-Take Or Sell Commercial Fish W/O Commercial License

1-Take Commercial Fish W/O Commercial Gear License

2-Sell Game Fish

3-Littering

1-Public Intimidation

1-Violate Rules & Regulation Of Harvest Of Sale Of Freshwater Mussels

CONFISCATIONS:

1 commercial license and mussel harvest permit, 8 hoop nets, 2 snagging rods, 13 spoonbill catfish, 4 undersized, 3 ridge mussel shells.

TOTAL OF EACH CATEGORY FOR REGION 4:

59-Boating

46-Sport Fishing

2-Commercial Fishing

5-Other

REGION 5

TOTAL CASES-107

ENFORCEMENT-99

OTHER DIV. - 8

7-Boating

7-Angling W/O A Non-Resident License

1-Take Illegal Size Black Bass

4-Possession Undersized Black Drum

8-Not Abiding By Commission Rules O/L Of Red Snapper

2-Failure To Have Commercial License In Possession

4-Sell Commercial Fish W/O Commercial License

5-Take Commercial Fish W/O Commercial Gear License

1-Poss. Comm. Fish W/O Vessel License

2-Failure To Maintain Records

1-Illegal Shipping Of Comm. Fish

5-Use Crab Traps W/O Required Markings

2-Removing Contents From Legal Crab Traps

2-Sell Crab Traps In Nav. Channels/Entrance To Streams

1-Failure To Mark Crab Containers

2-Tending Crab Traps Illegal Hours

1-Use Illegal Length Mesh Nets/Freshwater

1-Failure To Tag Nets

1-Theft Of Crab Traps

2-Poss. Undersize Crabs

1-Poss. Alligators Closed Season

1-Violating National Wildlife Reg.

3-Take Fed. Controlled Fish In C/S

REGION 5 CONT'D.

6-Illegal Poss. Of Marijuana

7-Operating Vehicle While Intoxicated

12-Littering

7-Other Than Fish And Wildlife Violations

1-Obtain License By Fraud

1-Illegal Use Of Firearm

1-Flight From An Officer

8-Not Abiding By R/R On WMA

CONFISCATIONS:

1 shrimp trawl, 2 ice chests, 1 bag of marijuana, 6 marijuana cigarettes, 28 crab traps, 2 boats, 1 outboard motor, 1 pickup truck, 1 boat trailer, 1 gill net, 11 black drum, 3 red drum, 3 cobia, 40 red snapper, 1 black bass, 1 garfish, 1-6 foot alligator.

TOTAL OF EACH CATEGORY FOR REGION 5:

7-Boating

20-Sport Fishing

32-Commercial Fishing

1-Hunting

4-Federal

43-Other

REGION 6

TOTAL CASES-145

ENFORCEMENT-130

OTHER DIV. - 15

91-Boating

21-Angling W/O A License

6-Angling W/O A Non-Resident License

9-Fish W/O Resident Pole License

1-Use Gear W/O Recreational Gear License

1-Angling W/O A Saltwater License

5-Take Illegal Size Black Bass

1-Not Abiding By Commission Rules

1-Take Commercial Fish W/O Commercial Gear License

1-Take Or Possess Commercial Fish W/O Commercial Vessel License

1-Transport W/O Required Resident License

3-Possess Or Sell Undersize Crabs

1-Trawling In Closed Season (Inside Waters)

2-Taking Alligators Closed Season

1-Obtain License By Fraud

CONFISCATIONS:

16 black bass, 1 cobia, 1-35 foot trawl, 2 lbs. Of shrimp, 45 lbs. Of crabs, 140 lbs. Of hardshell crabs, 1-4.5 foot alligator, 1 Marine Resources Conservation Act Stamp, 1 resident saltwater license, 1 basic resident fishing license.

TOTAL OF EACH CATEGORY FOR REGION 6:

91-Boating

45-Sport Fishing

6-Commercial Fishing

1-Trawling

1-Reptile/Amphibian

1-Other

REGION 7

TOTAL CASES-284

ENFORCEMENT-284

OTHER DIV. - 0

170-Boating

83-Fish Without Non-Resident License

7-Fish Without Cane Pole License

2-No Commercial Gear License

1-Taking Fish Illegally

2-Fail To Maintain Records

1-Sell Fish W/O Wholesale/Retail Dealers License

1-Careless Operation Of A Boat

7-D.W.I.

10-Parish Ordinance-No Wake Zone

CONFISCATIONS:

1 shocking device, 1 motor, 1 boat.

TOTAL OF EACH CATEGORY FOR REGION 7:

170-Boating

6-Commercial Fishing

98-Sport Fishing

10-Other

REGION 8

TOTAL CASES-320

ENFORCEMENT-262

OTHER DIV. - 58

74-Boating

116-Angling W/O Basic License

22-Angling W/O Non-Resident License

3-Use Gear W/O Non-Resident Gear License

15-Angling W/O A Saltwater License

4-Angling W/O A Non-Resident Saltwater License

5-Fail To Have Marine Conservation Stamp

10-Possess Over The Limit Of Red Drum

10-Fail To Leave Saltwater Fish Intact

1-Take Or Possess Undersize Red Drum

4-Take Or Possess Undersize Speckled Trout

2-Take Or Possess Undersize Black Drum

4-Possess Over-The -Limit Of Speckled Trout

2-Not Abiding By Commission Rules And Regs. For Recreational Finfish

1-Fail To Have Commercial License In Possession

1-Take Or Sell Commercial Fish Or Bait Species W/O A Commercial License

4-Take Commercial Fish W/O Commercial Gear License

4-Take Or Possess Commercial Fish W/O A Vessel License

1-Sell Or Buy Fish W/O Wholesale/Retail Dealer's License

1-Failure To Maintain Records

1-Illegal Shipping Of Commercial Fish

1-Take Or Possess Undersize Commercial Fish (Hard Crabs)

3-Use Crab Traps W/O Required Markings

REGION 8 CONT'D.

1-Destroy Legal Crab Traps Or Remove Contents

10-Possess Or Sell Undersize Commercial Crabs

1-Commercial Truck W/O Display Of Owner's Name And Address

1-Trawling In Inside Waters In Closed Season

4-Use Skimmers In Closed Season

1-Harvest Oysters From Unmarked Lease

2-Frogging In Closed Season

3-Criminal Trespass

2-Littering

6-Violation Of Sanitary Code

CONFISCATIONS:

35 crab traps, 4 skimmer nets, 1-1500 feet of gill net, 1-1000 feet of gill net, 2 non-resident guided licenses, 1 resident basic license, 3 Marine Conservation Stamps, 1-16 foot motorboat, 1-40 h.p.outboard motor, 5 ice chests, 166 speckled trout, 186 red drum, 123 sheepshead, 27 black drum, 1410 lbs. Of crabs returned-to-water, 239 sacks of oysters returned-to-water, 197 lbs. Of shrimp sold for $657.10, 500minnows, 9 snapper, 5 yellowfin tuna, 1 skipjack tuna, 1 white trout, 1 sea perch, 2 coaxers, 1 flounder, 2 bass, 5 catfish, 12 garfish, 1 alligator, 5 lesser scaup, 1 duck, 2 cormorants.

TOTAL OF EACH CATEGORY FOR REGION 8:

74-Boating

34-Commercial Fishing

198-Sport Fishing

2-Oyster

2-Hunting

10-Other

11-Public Assistance

REGION 9

TOTAL CASES-212

ENFORCEMENT-205

OTHER CASES - 7

82-Boating

22-Angling W/O A License

1-Angling W/O A Non-Resident License

3-Use Gear W/O Recreational Gear License

3-Angling W/O Saltwater License

1-Angling W/O Saltwater License Non-Resident

2-Fail To Have Saltwater Stamp

2-Take Illegal Size Black Bass

1-Possess Undersize Spotted Sea Trout

1-Possess Undersize Black Drum

1-Not Abiding By Commission Rules And Regs. Comm. Finfish

6-Fail To Have Commercial Fish W/O Commercial License

8-Take Commercial Fish W/O Commercial Gear License

5-Take Commercial Fish W/O Vessel License

2-Sell Fish W/O Wholesale/Retail License

1-Fail To Maintain Records

1-Illegal Use Of Monofilament

1-Leave Nets Unattended

2-Use Saltwater Net Illegally

7-Possess Undersize Comm. Hard Crabs

2-Theft Of Crab Traps

20-Sell Undersize Commercial Hard Crabs

2-Take Undersize Commercial Finfish

REGION 9 CONT'D.

1-Take Saltwater Commercial Fish Closed Season

3-Possess Crabs In Berry Stage

1-Fail To Comply W/Commission Concern Traversing Permit

3-Trawling In Closed Season Inside Waters

4-Butterflying In Closed Season

13-Use Skimmers In Closed Season

1-Possession Of Over Limit Rec. Shrimp

3-Use Oversize Butterfly Nets

2-Use Illegal Butterfly Net Extension

1-Hunt From A Public Road

1-DWI

1-Littering

1-Improper Lane Usage

1-Sell Reptiles W/O Collector License

CONFISCATIONS:

120 lbs. Crawfish sold for $88.45, 50 lbs. Of collarbone catfish $110.45, 3,729 lbs. Of crabs released, 318 lbs. Of cobia sold for $636.00, 40 lbs. Of bonito sold for $6.00, 4 lbs. Of king mackerel sold for $3.20, 3,208 lbs. Of shrimp sold for $2,667.20, 106 lizards sold for $31.80, 1 blue runner snake sold for 60cents, 5 pigeons disposed, 45 lbs. Of by catch released (crab, shrimp, fish) released, 4 black bass, 2 black drum, 13 berry crabs, 3 sea trout released, 1-3wheeler , 1 rifle, 68 crab traps, 100 foot of gillnet, 10 boats paper seizures, 2 motors, 8 butterfly nets, 1 set of receipt of purchase,24 skimmer nets, 1200 foot of trammel net, 1 lizard cage, 1 trawl net, 2 trawl boards, 18 champagnes, 5 buckets, 1 Ice chest, 1 driver's license.

TOTAL OF EACH CATEGORY FOR REGION 9:

82-Boating	26-Trawling	3-Other	1-Reptiles/Amphibian
35-Sport Fishing	1-Hunting	64-Commercial Fishing	

SPECIAL SEAFOOD INVESTIGATION SECTION

TOTAL CASES-79

5-Boating

2-Angling W/O A Basic Fishing License

1-Take/Possess Undersize Spotted Sea Trout

2-Sell Fish Caught Recreationally

4-Violate Commission Rules And Regs.

1-Take Or Sell Fish Without Commercial License

3-Take Fish Without Commercial Gear License

4-Take Or Sell Fish Without Vessel License

10-Buy And Sell Fish Without Wholesale Dealers License

9-Fail To Maintain Records

2-Illegal Shipping Of Commercial Fish

1-Fail To Comply With Federal EEZ Requirements

2-Buy Fish From Unlicensed Fisherman

1-Possess Crabs In Berry Stage

1-Fail To Comply With Spotted Seatrout Closure

1-Fail To Report Commercial Fish Data

4-Take Undersize Crabs Commercial

15-Sell Undersize Commercial Crabs

1-Fail To Maintain Records Reptile And Amphib.

1-Sell F.B.A. Or Parts Without License

1-Sell Non-Game Quadrupeds Closed Season

1-Improper Dealer Records (Furs and Skins)

1-DWI

SPECIAL SEAFOOD INVESTIGATION SECTION CONT'D.

1-Littering

2-Violation Of Sanitation Code Chapter 9

3-Misc. Federal Violation Blue Fin

CONFISCATIONS:

5,251 undersize crabs returned to water, 485 lbs. Of red snapper sold for $1,333.75, 392 lbs.of cobia sold for $720.80, 160 lbs. Of catfish sold for $280.00, 330 lbs. Of shrimp sold for $165.00, 45 lbs. Of blue fin tuna sold for $90.00, 40 lbs. Of bonito sold for $20.00, 4 lbs. Of king mackerel sold for $2.80, 2 lbs. Of trigger fish sold for $2.00, 2 lbs. Of barjack sold for $2.50, 130 sacks of oysters returned to water, 14 coons donated, 30 lbs. Of catfish donated, 12 lbs. Of buffalo donated, 24 lbs. Of spotted sea trout, 8 lbs. Of flounder.

TOTAL OF EACH CATEGORY FOR SPECIAL INVESTIGATIVE SECTION:

5-Boating

3-Sport Fishing

71-Commercial Fishing

SPECIAL STRIKE FORCE

TOTAL CASES-41

10-Boating

2-Other Than Wildlife And Fisheries

1-Flight From An Officer

1-DWI

1-Obtain License By Fraud

1-Take Commercial Fish W/O Gear License

1-Fail To Mark/Tag Nets

3-Not Abiding By Commission Rules (Rec. Finfish)

1-Illegal Possession Of Drugs Or Marijuana

1-Fail To Have Commercial License In Possession

1-Use Crab Traps W/O Required Markings

12-Angling W/O Basic License

2-Angling W/O Basic License Non-Resident

2-Angling W/O Saltwater License-Non Resident

2-Take/Possess Commercial Fish W/O Vessel License

CONFISCATIONS:

31 red snapper, 3 cobia, 2 black drum, 15 crab traps, 30 feet of gill net, 2 spotted sea trout, 1 croaker.

TOTAL OF EACH CATEGORY FOR SPECIAL STRIKE FORCE:

10-Boating

19-Sport Fishing

7-Commercial Fishing

5-Other

S.W.E.P.

TOTAL CASES-6

RUNNING TIME-30 HOURS

1-Careless Operation Of A Personal Watercraft

1-No LA Numbers

4-Angling W/O A Basic License

SPECIAL NOTE: RIP TIDE AND DELTA TIDE IN SHIPYARD MOST OF THE MONTH FOR REPAIR.

OYSTER STRIKE FORCE

TOTAL CASES-38

9-Sanitation Code Chapter 9 Improper Records

2-Sell fish W/O Wholesale/Retail Dealer's License

1-Fail To Have PFD On Person Under 13 While Underway

1-Pollution Of State Waters

1-Trawling In Closed Season

1-Take Commercial Fish W/O Commercial Gear License

3-Take Commercial Fish Species W/O Commercial License

1-Take Commercial Fish W/O Vessel License

4-Use Skimmers In Closed Season

1-Littering

3-Harvest Oysters W/O Oyster Harvester License

1-Take Undersized Spotted Sea Trout

2-Allow Another to Use Commercial License

2-Permit Unlicensed Person To Operate Commercial Vessel

2-Permit Unlicensed Person To Use Commercial Gear

1-Use Commercial License Belonging To Another

1-Fail To Maintain Records

1-Illegal Shipping Of Commercial Fish, Shipping Regs., Tags And Identification

1-Take Saltwater Commercial Fish With Net Closed Season

CONFISCATIONS:

251 sacks of oysters returned-to-water , 322 lbs. Of 81/100 shrimp sold for $297.60, 14 speckled trout, 6 skimmer nets, 1 trawl, 2 trawl doors.

TOTAL OF EACH CATEGORY FOR OYSTER STRIKE FORCE:

1-Boating 1-Sport Fishing 36-Commercial Fishing

TOTAL CASES ENFORCEMENT-1818

TOTAL CASES OTHER DIV. - 95

GRAND TOTAL - 1914

ILLEGAL SHRIMP ACTIVITY REPORT

REGION 5

1-Trawling In Closed Season

3-Butterflying In Closed Season

REGION 8

Complaints of illegal shrimping increased greatly this month. These were mainly concentrated on the areas near the coast. Compliance this year appeared to be greater than in previous years, with fewer cases and complaints. An aggressive shrimp patrol effort was maintained,concentrating on nighttime activity in coastal waters. Patrols were scheduled based on tidal action, complaints and agent's observation of shrimp presence. The amphib plane was used extensively, and was especially effective as a surveillance platform. Since the bulk of the illegal activity occurred at night, the plane was used to locate concentrations of boats anchored in closed areas before dark., so that agents could concentrate their efforts accordingly. Numerous inquiries for TED information, which were referred to the LSU Cooperative Extension Service Fisheries Agent Gerald Horst. We received a large number of calls regarding mesh size, net and frames size, license requirements, and trying out nets in closed season. We received numerous inquiries regarding the shrimp season, particularly about the opening date and projected numbers of shrimp. Approximately 10 cases were made in Plaquemines and Jefferson Parishes for closed season trawling or skimming. They were made close to the coast, but the boats were well within the closed area. One trawling case was made in Lake Ponchartrain in Orleans.

REGION 9

Commercial and recreational shrimpers are doing fair with brown shrimp in inside waters averaging 60-70 and 70-80 count. As you can see on the May Case Report, there were 20 closed-season shrimping cases involving the seizures of 3243 pounds of shrimp. Our cocentration now is double rigging inside, illegal gear and oversize nets.

ENFORCEMENT AVIATION REPORT
MAY, 1996

185-Amph. - 61092	185-Float - 70365	210 - 9467Y
Hrs. - 52.1	Hrs. - 54.4	Hrs. - 57.3

Total Plane Use - 163.8 Hrs.

Cases Made in Conjunction with Aircraft Use Resulted in Citations issued for:

4 - Boating

1 - Failure To Have Commercial License In Possession

1 - Take Commercial Fish Without Commercial License

2 - Take Commercial Fish Without Gear License

5 - Take Commercial Fish Without Vessel License

1 - Illegal Use of Monofilament

1 - Leave Net Unattended

1 - Take Saltwater Commercial Fish With Net Closed Season

6 - Use Skimmers In Closed Season

7 - Possess Undersize Hard Crabs Commercial

2 - Possess Crabs In Berry Stage

3 - Theft Of Crab Trap

1 - Failure To Have Written Permission

1 - Harvest Oysters Without Oyster Harvester License

36 Total Cases

October 1996

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

ENF_521U

LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES
CIVIL RESTITUTION ACTIVITY REPORT

DATE: 3-JUN-1996

	CURRENT MONTH 05/01/1996 TO 05/31/1996		FISCAL YEAR TO DATE 07/01/1995 TO 05/31/1996		INCEPTION TO DATE 05/31/1996	
	# CASES	AMOUNT	# CASES	AMOUNT	# CASES	AMOUNT
ORIG RESTITUTION VALUES ENTERED	23	$7,139.34	465	$339,505.55	3,009	$2,053,574.85
HEARING COSTS ASSESSED	34	$850.00	37	$925.00	69	$1,725.00
SALE OF CONFISCATED COMMODS	0	$0.00	0	$0.00	331	$269,865.45-
SALES EXCEEDING RESTITUTION	0	$0.00	0	$0.00	148	$71,951.21
RESTITUTION ASSESSED	23	$7,989.34	465	$340,430.55	3,009	$1,857,385.61
PAYMENTS	24	$3,941.69-	324	$57,997.26-	1,915	$282,925.64-
DISCOUNTS FOR TIMELY PAYMENTS	16	$2,020.29-	282	$29,166.82-	1,242	$138,415.04-
OVERPAYMENTS	1	$39.36	20	$532.36	70	$1,483.63
REFUND OF OVERPAYMENT	0	$0.00	7	$490.68	31	$7,025.43
APPLIED CONFISCATED COMMODS	2	$2,967.00-	4	$18,449.45-	4	$18,449.45-
APPLIED EXCEEDING BALANCE DUE	2	$1,141.94	4	$10,601.49	4	$10,601.49
REFUND OF CONFISCATED COMMOD.	0	$0.00	7	$27,392.77	16	$75,437.67
RETURNED CHECKS	0	$0.00	0	$0.00	1	$36.75
MISC. ADJUSTMENTS						
DEBITS	0	$0.00	0	$0.00	2	$35.00
CREDITS	0	$0.00	7	$5.95-	11	$8.52-
REASSESSMENTS						
DEBITS	1	$2,407.50	1	$2,407.50	15	$5,900.05
CREDITS	0	$0.00	1	$524.54-	42	$12,583.82-
WRITE-OFFS	2	$12.50-	18	$15.11-	202	$258,985.19-
ASSESSMENTS WITHDRAWN	0	$0.00	0	$0.00	6	$1,399.24-
FOUND NOT RESPONSIBLE	4	$2,468.45-	5	$2,992.99-	12	$19,762.94-
CASES VOIDED BY ENFORCEMENT	0	$0.00	0	$0.00	2	$97.80-
** TOTAL OUTSTANDING					855	$1,225,277.99

FOOTNOTE:

PAYMENTS FROM COLLECTION EFFORT	1	$20.00	11	$220.54	45	$10,820.67
AMOUNT PAID TO COLLECTOR		$5.00		$55.13		$2,705.16
PORFEIT OF CONFISCATED COMMODS	0	$0.00	0	$0.00	0	$0.00 *

AGING OF SALE OF CONFISCATED COMMODITIES

VIOLATION DATE UNKNOWN	0	$0.00
1 - 30 DAYS	1	$67.50
31 - 60 DAYS	6	$1,087.70
61 - 90 DAYS	10	$8,568.80
91 - 120 DAYS	17	$25,178.48
121 - 150 DAYS	14	$3,711.30
151 - 180 DAYS	7	$2,728.20
181 - 365 DAYS	80	$47,420.37
OVER ONE YEAR	119	$91,878.57
OVER TWO YEARS	56	$54,861.44
OVER THREE YEARS	5	$1,842.49
** TOTAL AGING	315	$237,344.85

AGING OF OUTSTANDING CASES

CAN NOT BE INVOICED	9	$4,464.62
1 - 30 DAYS	14	$2,607.84
31 - 60 DAYS	7	$3,664.77
61 - 90 DAYS	18	$20,343.55
91 - 120 DAYS	22	$6,899.01
121 - 150 DAYS	16	$5,040.34
151 - 180 DAYS	13	$10,319.64
181 - 365 DAYS	117	$256,341.99
CASES SENT FOR COLLECTION	12	$13,367.14
OVER 1 YEAR PENDING	0	$0.00
OVER 1 YEAR (OTHER)	627	$902,229.09
** TOTAL AGING	855	$1,225,277.99

MONTHLY CIVIL RESTITUTION REPORT

PERIOD	NO. CASES ASSESSED	AMOUNT ASSESSED	CREDIT FOR SALE GOODS	NO. CASES PAID	AMOUNT PAID	DISCOUNTS TAKEN	Percent Dollars Paid	Percent Cases Paid
FISCAL YEAR 1993-94								
July, 1993	25	21,039	(9,778)	29	4,855	2,545		
Aug., 1993	53	44,922	(1,137)	41	7,950	3,603		
Sept., 1993	42	137,635	(17,938)	35	6,783	3,048		
Oct., 1993	49	21,471	(11,282)	40	3,285	1,519		
Nov., 1993	57	31,207	(13,260)	32	3,053	2,845		
Dec., 1993	53	13,777		27	6,507	6,713		
Jan., 1994	38	18,918		32	4,423	2,831		
Feb., 1994	68	38,131	(8,238)	46	9,124	5,993		
Mar., 1994	38	22,739	(2,482)	51	10,854	6,796		
April, 1994	14	44,732	(1,404)	27	7,307	4,632		
May, 1994	10	4,504	(165)	7	5,447	3,808		
June, 1994	29	26,167	(2,986)	12	1,886	1,214		
Total FY 1994	476	425,242	(68,670)	379	71,474	45,547	27.5%	79.6%
FISCAL YEAR 1994-95								
July, 1994	17	2,127	(335)	23	2,101	1,437		
Aug., 1994	41	96,403	(3,035)	20	1,010	605		
Sept., 1994	34	14,614	(14,002)	26	2,596	2,342		
Oct., 1994	94	17,426	(8,677)	38	2,922	3,179		
Nov., 1994	43	103,592		45	3,992	2,803		
Dec., 1994	68	31,400		35	4,315	2,329		
Jan., 1995	55	27,601		52	7,493	4,921		
Feb., 1995	70	61,119		41	6,472	3,973		
Mar., 1995	31	25,072		44	8,315	4,737		
Apr., 1995	13	15,353		16	3,565	1,538		
May., 1995	23	11,632		16	4,315	654		
June 1995	45	31,008		18	2,630	1,025		
Total FY 1995	534	437,347	(26,049)	374	49,726	29,543	18.1%	70.0%
FICAL YEAR 1995-96								
July, 1995	0	0						
Aug., 1995	46	17,425		27	9,028	1,729		
Sept., 1995	1	125		21	3,093	2,049		
Oct., 1995	122	206,244		29	2,720	1,161		
Nov., 1995	55	23,124		62	10,151	6,383		
Dec., 1995	50	18,607		32	4,781	2,803		
Jan., 1996	49	13,815	(15,296)	36	5,297	3,473		
Feb., 1996	50	14,717		38	5,778	3,417		
Mar., 1996	33	24,937		36	6,035	3,422		
Apr., 1996	30	11,007		36	7,173	2,712		
May., 1996	23	7,989		24	3,942	2,020		
June 1996								
Total FY 1996	459	337,990	(15,296)	341	57,997	29,168	25.8%	74.3%

COMMERCIAL SPOTTED SEATROUT LANDINGS

FISHING YEAR	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST
95-96		814	16,874	160,825	224,298	145,721	2,485					
94-95	94,614	119,720	115,160	199,158	247,416	195,397	60,015	469				
		(Enforcement Div. info)		→ 55,277			(close 3/9)					
93-94	88,407	118,592	191,211	194,585	285,989	154,317	49,544					
							(close 3/6)					
92-93	59,338	109,169	135,400	191,337	209,715	121,882	140,484	82,128				
								(close 4/16)				
91-92	25,922	47,403	105,759	139,433	144,822	57,710	94,215	176,625	3,128			
									(close 5/1)			
90-91	42,663	54,724	64,693	158,523	243,771	83,986	59,778	121,674	170,636	121,884	141,483	7,592
												(close 8/2)
89-90	183,277	132,166	146,300	325,410	75,445	76,145	67,441	92,265	26,026	0	767	0
									(close 5/6)			
88-89	61,227	123,541	141,184	302,241	316,866	178,001	146,669	59,173	560	447	2	7
								(close 4/9)				
87-88	58,017	74,114	90,913	87,988	249,086	143,565	98,287	196,722	64,373	12,717	34,919	5,546
									(close 5/6)			
86-87	78,603	158,250	157,276	233,756	204,314	110,792	126,569	245,782	244,144	191,870	217,832	149,539
85-86	15,440	66,576	88,509	214,576	219,796	68,111	120,639	246,287	254,854	191,966	160,520	87,982

CUMULATIVE THROUGH MONTH

	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST
95-96	0	814	17,688	178,513	402,811	548,532	551,017					
94-95	94,614	214,334	329,494	583,929	831,345	1,026,742	1,086,757	1,087,226				
				(incl. Enforcement info)			(1.0 m lb)					
93-94	88,407	206,999	398,210	592,795	878,784	1,033,101	1,082,645					
							(1.0 m lb)					
92-93	59,338	168,507	303,907	495,244	704,959	826,841	967,325	1,049,453				
								(1.0 m lb)				
91-92	25,922	73,325	179,084	318,517	463,339	521,049	615,264	791,889	795,017			
									(1.0 m lb)			
90-91	42,663	97,387	162,080	320,603	564,374	648,360	708,138	829,812	1,000,448	1,122,332	1,263,815	1,271,407
												(1.25 m lb)
89-90	183,277	315,443	461,743	787,153	862,598	938,743	1,006,184	1,098,449	1,124,475	1,124,475	1,125,242	1,125,242
									(1.25 m lb)			
88-89	61,227	184,768	325,952	628,193	945,059	1,123,060	1,269,729	1,328,902	1,329,462	1,329,909	1,329,911	1,329,918
								(1.25 m lb)				
87-88	58,017	132,131	223,044	311,032	560,118	703,683	801,970	998,692	1,063,065	1,075,782	1,110,701	1,116,247
									(1.0 m lb)			
86-87	78,603	236,853	394,129	627,885	832,199	942,991	1,069,560	1,315,342	1,559,486	1,751,356	1,969,188	2,118,727
85-86	15,440	82,016	170,525	385,101	604,897	673,008	793,647	1,039,934	1,294,788	1,486,754	1,647,274	1,735,256

MANAGEMENT OF NUTRIA IN COASTAL LA.

MARKETS

Since 1962 nutria has been the backbone of the Louisiana fur industry. For 20 years (1962-1982) the annual harvest of nutria never dropped below 1 million and in many years was over 1.5 million. During the 1976-77 season the harvest reached 1.8 million pelts worth over $14 million to the trappers of the state. During the late 1970's and early 1980's average pelt prices were over $8.

However, nutria markets in Northern Europe began changing in the early 1980's and pelt prices dropped. During the mid and late 1980's many of the state's large dealers passed away and that capital was removed from the Louisiana industry. The last harvest near 1 million pelts occurred in 1987-88. Harvest dropped to near 300,000 by 1989-90. During the late 1980's ranch mink were over produced internationally, resulting in lower prices for all wild fur including nutria.

By 1986 Fur and Refuge Division personnel began observing vegetative damage in some Southeast coastal marshes. The Division recommended aerial surveys to determine the distribution and severity of the damage, however funds were not available. Increasing reports of marsh damage from large coastal land companies and concerns of trappers related to lack of markets and increasing anti-trapping activity resulted in the creation of the Fur and Alligator Advisory Council (FAAC) in 1986. In the early 1990's the sugar cane industry began reporting serious damage.

Market development during the early 1990's resulted in new markets for La. nutria in Canada, Eastern Europe, and now Russia and mainland China. However, to fully take advantage of these markets dealers must buy in December, January, February, and March and hold until summer and early fall. This requires capital that is not available from remaining state fur dealers. If dealers had capital they could pay more to trappers, buy more (increasing harvest) and sell later when prices are higher. Low prices ($2-4) to trappers for several years have reduced participation, farther reducing harvest and resulting in over population in some coastal marshes. Harvest during the last three years has ranged from slightly over 100,000 to 200,000 animals. Markets this past season (1995-96) could have resulted in sales of over 400,000 pelts if dealers had available capital to pay slightly more and hold until summer. That was not the case and the resulting harvest will likely be low with all nutria already sold and demand and price increasing.

DEPARTMENT ACTION

The Department has been actively involved with this issue since the mid 1980's. Had aerial survey data on marsh damage been collected, beginning in 1988, strong justification for an incentive payments project could have been made through the Coastal Wetlands Planning, Protection, and Restoration Act(CWPPRA). Everytime damage was discussed with the federal agencies the question was asked; how many acres are being damaged and in what areas? Unfortunely, the Department did not have funding to conduct aerial surveys and could not provide answers. In an attempt to use some CWPPRA funds a "Nutria Control Cost Share Program" was created by Act 552 in 1990. This program provided $50,000 to be matched 1 to 1 by participating land companies. The program required information including trapping history, location of the damage, and a payment of 50 cents per pelt sold and provided a 50 cent match from CWPPRA funds. However, there were no provisions for the cost of administering the program, including locating, verifying, and monitoring the damage sites by LDWF. Land companies did not know where damage was occurring and the $1.00 payment was not adaquate. Thus, the program has been unsuccessful.

Declining mineral revenues and tremendous competition for CWPPRA projects from local government in recent years has made this potential source of funding much less available. However, concern from local government, land companies, state and federal agencies continues to grow.

Taking advantage of this interest, Fur and Refuge Division conducted an aerial survey under contract to Barataria -Terrebonne National Estuary Program (BTNEP) in May and December of 1993. This survey, conducted from Atchafalaya Bay to the Mississippi River, found over 15,000 acres of damaged marsh along transects, indicating total damaged acres of over 60,000 acres. Recovery from the May to December survey was not very encouraging, with only 38% of the damaged sites showing partial recovery. The Division is now conducting an aerial survey of the same area for BTNEP. This survey will provide an update on the status of damaged marsh in Southeast Louisiana. Funding has not been available for surveys in Southwest Louisiana, therefore the distribution and severity of vegetative damage is unknown accept for spotty reports from land companies.

A meeting with major coastal land companies to discuss nutria management was held in the fall of 1994. Land companies felt that LDWF should seek state funding for incentive payments to trappers to increase harvest to at least 400,000 pelts in an attempt to reduce or halt marsh damage. I believe they would strongly support such a funding request. Strong support would also come from local governments and most state and federal agencies. Land companies also felt that FAAC should continue to develop markets and search for innovative financing to assist fur dealers.

During this past fall and winter FAAC and Division personnel worked with interested dealers and land companies encouraging the development of a Louisiana Fur Corporation. Several land companies indicated interest and this project has continued. Meetings with the Department of Agriculture and Forestry have indicated an interest on the part of Commissioner Odum to support a bill creating the Louisiana Fur Marketing and Development Authority. This type of legislation provided funding for the development of several alligator tanneries in the state through guaranteed loans and could provide the needed capital to state fur dealers.

Division personnel have been working for over two years with Departments of Health and Hospitals and Agriculture and Forestry to allow the sale of nutria meat for human consumption. Regulations were completed in late 1995 and five processors were selected. The potential for meat sales is good, with strong interest from the Pacific Rim. However, markets will require time for development and financial arrangements. Nutria meat for human consumption is not new. This meat has been considered a delicacy in Europe for many years. The FAAC provided funding in 1995 for a nutritional analysis of the meat conducted by Pennington Biomedical Research. This analysis showed that nutria meat is lower in fat than chicken or turkey and is as high in protein as other commonly consumed meats (chicken, beef, pork and turkey). The meat is similar in taste to rabbit but milder. FAAC and LDWF have continued to encourage this market working cooperatively with many state agencies and conservation organizations.

The Division also continues to conduct nutria pelt quality research through a combination of research projects. The goal of these projects are to determine the factors which dictate variation in pelt quality and to subsequently develop management practices which may enhance pelt quality to improve marketability, increased price, and result in an increased harvest.

The problem of over population of nutria is not entirely new. Before a market for the fur developed in the early 1960's the same reports of crop and marsh damage were heard. However, the long term impacts of such vegetative damage may not

have been understood. After considering poisoning, listing as an outlaw quadruped, and a possible bounty, the problem was solved by the creation of a market and fairly stable prices to trappers through the mid 1980's.

SUMMARY OF RECOMMENDATIONS

1- Continue to survey Southeast marsh damage through BTNEP in order to support requests for action.
2- Request funding for aerial surveys in Southwest marshes.
3-Work cooperatively with local government, state and federal agencies, and coastal land companies to secure funding for an incentive payment program to increase pelt price and harvest (a payment of $1.50 per nutria for up to 500,000 would require $750,000 plus administrative cost. This is not much compared to $20 to $40 million spent annually on coastal restoration and protection).
4-Support efforts of FAAC to enhance and develop fur markets.
5-Work cooperatively with FAAC, land companies, and the Department of Agriculture and Forestry to secure funding for the creation of the Louisiana Fur Marketing and Development Authority in order to provide innovative financing to Louisiana fur corporations resulting in more capital to pay more to trappers, buy more nutria, and sell at higher prices.
6- Work cooperatively with FAAC, Department of Agriculture and Forestry on development of the nutria meat market.
7- Continue research on pelt quality with the goal of increasing pelt price and harvest.

Louisiana Department of Wildlife and Fisheries

NEWS RELEASE

James H. Jenkins Jr.
Secretary

CONTACT
504/765-2923

96-128 5/31/96

JUNE WILDLIFE & FISHERIES COMMISSION MEETING SET

The Louisiana Wildlife and Fisheries Commission will conduct its next regular meeting at 10 a.m. on Thursday, June 6, 1996, in the Louisiana Room of the Wildlife and Fisheries headquarters, 2000 Quail Dr., Baton Rouge.

The meeting is open to the public. The agenda follows.

1. Roll call.
2. Approval of minutes of May 2, 1996.
3. Aquatic Education presentation.
4. Announcement of 1997 Duck Stamp competition.
5. Public comment on 1996-97 hunting regulations.
6. Experimental lottery duck hunt on Red River Wildlife Management Area.
7. Turkey season — drawing for shotguns.
8. Use of crossbows for deer hunting.
9. Marsh Island experimental alligator harvest (information only).
10. Enforcement and Aviation reports — May.
11. Division reports.
12. Set October 1996 meeting date.
13. Public comments.
14. Adjourn.

-30-

This public document was printed at a cost of $2.94. Three hundred copies of this document were printed in this first and only printing. This document was printed by the Department of Wildlife and Fisheries, 2000 Quail Drive, Baton Rouge, LA 70808 to provide timely information about department programs for numerous interest groups and the general public. This document was printed in accordance with the printing standards for state agencies established pursuant to R.S. 43:31.

May 28, 1996

NEWS RELEASE

APPROVED: _____

AGENDA FOR COMMISSION MEETING

The next regular public board meeting has been scheduled by the Commission for **10:00 A.M. on Thursday, June 6, 1996**, in the Louisiana Room at the Wildlife and Fisheries Building, 2000 Quail Drive, Baton Rouge, LA.

1. Roll Call
2. Approval of Minutes of May 2, 1996
3. Aquatic Education Presentation
4. Announce 1997 Duck Stamp Competition
5. Public Comment, 1996-97 Hunting Regulations
6. Experimental Lottery Duck Hunts on Red River WMA
7. Turkey Season - Drawing for Shotguns
8. Use of Crossbow for Deer Hunting
9. Marsh Island Experimental Alligator Harvest (Information Only)
10. Enforcement & Aviation Reports/May
11. Division Reports
12. Set October 1996 Meeting Date
13. Public Comments
14. Adjourn

State of Louisiana

James H. Jenkins, Jr.
Secretary

Department of Wildlife and Fisheries
Post Office Box 98000
Baton Rouge, LA 70898-9000
(504)765-2800

M.J. "Mike" Foster
Governor

May 28, 1996

MEMORANDUM

TO: Chairman and Members of Commission

FROM: James H. Jenkins, Jr., Secretary

SUBJECT: June Board Meeting Agenda

The next regular public board meeting as set by the Commission will be held at **10:00 A.M. on Thursday, June 6, 1996**, in the Louisiana Room at the Wildlife and Fisheries Building, 2000 Quail Drive, Baton Rouge, LA.

The following will be on the agenda:

1. Approval of Minutes of May 2, 1996

INFORMATION & EDUCATION

2. Aquatic Education Presentation

OFFICE OF WILDLIFE

3. Announce 1997 Duck Stamp Competition
4. Public Comment, 1996-97 Hunting Regulations
5. Lottery Duck Hunts ~~on Sherburne &~~ Red River WMA's - Experimental
6. Turkey Season - Drawing for Shotguns
7. Use of Crossbow for Deer Hunting
8. Marsh Island Experimental Alligator Harvest (Information Only)

WINTON VIDRINE

9. Enforcement & Aviation Reports/May

10. Division Reports

11. Set October 1996 Meeting Date

12. Public Comments

JHJ:sch

C: Clyde Kimball
Fred Prejean
Johnnie Tarver
John Roussel
Don Puckett
John Medica
Division Chiefs

May 28, 1996

NEWS RELEASE

APPROVED: 

AGENDA FOR COMMISSION MEETING

The next regular public board meeting has been scheduled by the Commission for **10:00 A.M. on Thursday, June 6, 1996**, in the Louisiana Room at the Wildlife and Fisheries Building, 2000 Quail Drive, Baton Rouge, LA.

1. Roll Call
2. Approval of Minutes of May 2, 1996
3. Aquatic Education Presentation
4. Announce 1997 Duck Stamp Competition
5. Public Comment, 1996-97 Hunting Regulations
6. Lottery Duck Hunts on Sherburne & Red River WMAs
7. Turkey Season - Drawing for Shotguns
8. Use of Crossbow for Deer Hunting
9. Marsh Island Experimental Alligator Harvest (Information Only)
10. Enforcement & Aviation Reports/May
11. Division Reports
12. Set October 1996 Meeting Date
13. Public Comments
14. Adjourn

State of Louisiana

James H. Jenkins, Jr.
Secretary

Department of Wildlife and Fisheries
Post Office Box 98000
Baton Rouge, LA 70898-9000
(504)765-2800

M.J. "Mike" Foster
Governor

May 28, 1996

MEMORANDUM

TO: Chairman and Members of Commission

FROM: James H. Jenkins, Jr., Secretary

SUBJECT: June Board Meeting Agenda

The next regular public board meeting as set by the Commission will be held at **10:00 A.M. on Thursday, June 6, 1996**, in the Louisiana Room at the Wildlife and Fisheries Building, 2000 Quail Drive, Baton Rouge, LA.

The following will be on the agenda:

1. Approval of Minutes of May 2, 1996

INFORMATION & EDUCATION

2. Aquatic Education Presentation

OFFICE OF WILDLIFE

3. Announce 1997 Duck Stamp Competition
4. Public Comment, 1996-97 Hunting Regulations
5. Lottery Duck Hunts on Sherburne & Red River WMAs
6. Turkey Season - Drawing for Shotguns
7. Use of Crossbow for Deer Hunting
8. Marsh Island Experimental Alligator Harvest (Information Only)

WINTON VIDRINE

9. Enforcement & Aviation Reports/May

10. Division Reports

11. Set October 1996 Meeting Date

12. Public Comments

JHJ:sch

C: Clyde Kimball
Fred Prejean
Johnnie Tarver
John Roussel
Don Puckett
John Medica
Division Chiefs

FAX TRANSMITTAL

TO: Glynn Carver

Chairman

FAX#

FROM Susan Hawkins

RE: June Commission Agenda

Please review the attached agenda and let me know if okay. Thank you and have a nice weekend!

DATE: May 24, 1996

TIME SENT

FOR INFORMATION CALL (504) 765-2806

OUR FAX # (504) 765-2607

PAGES TO FOLLOW 2

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OFFICE OF FISHERIES

WINTON VIDRINE

9. Enforcement & Aviation Reports/May

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M.J. "Mike" Foster
Governor

May 3, 1996

MEMORANDUM

TO: Deputy Secretary, Undersecretary, Assistant Secretary-Office of Wildlife, and Assistant Secretary-Office of Fisheries

FROM: James H. Jenkins, Jr., Secretary

SUBJECT: Commission Meeting Agenda - June 6, 1996

Please write on the bottom of this memo and return to Susan Hawkins by Thursday, May 16th any agenda items your office may have for the Thursday, June 6th Commission Meeting to be held in Baton Rouge, Louisiana, at the Wildlife and Fisheries Building, 2000 Quail Drive. This meeting will begin at 10:00 a.m. on June 6th. If you do not have anything for the agenda, please return memo and indicate so on the bottom of this memo. We cannot add anything to the agenda that requires commission action after we have published the agenda in the state journal.

Resolutions and Notices of Intent should be included with the list of items to be placed on the agenda. Thank you for your cooperation!

JHJ/sch

cc: Commissioners
Don Puckett
Winton Vidrine
Hugh Bateman
Bennie Fontenot
Corky Perret
Wynnette Kees
Karl Turner
Al Carver
James Manning

05/16/96

DEAR SUSAN:

THE INLAND FISHERIES DIVISION HAS NO ITEMS TO BE PLACED ON THE AGENDA FOR THE JUNE MEETING.

Bennie J. Fontenot, Jr.

State of Louisiana

James H. Jenkins, Jr.
Secretary

Department of Wildlife and Fisheries
Post Office Box 98000
Baton Rouge, LA 70898-9000
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Bennie Fontenot
Corky Perret
Wynnette Kees
Karl Turner
Al Carver
James Manning

1) Annual 1997 Duck Stamp Competition (Ring-necked Duck) – D. Morrison
2) Public Comment on 1996-97 hunting regulations – H. Bateman
~~3) Lottery Duck Hunts on Sherburne and Red River WMAs – D. Morrison~~
3 4) Turkey Season - Drawing for shotguns – D. Turnier
4 5) Use of Cross-bow for Deer Hunting – T. Prickett

State of Louisiana

James H. Jenkins, Jr.
Secretary

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Karl Turner
Al Carver
James Manning

5/7/96 - I+E Div. "Aquatic Education" - Paul Jackson

State of Louisiana

James H. Jenkins, Jr.
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Al Carver
James Manning

nothing
W. Kees
5-08-96

State of Louisiana

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